

**United States Court of Appeals
for the Federal Circuit**

APPLE INC.,
Appellant,

v.

INTERNATIONAL TRADE COMMISSION,
Appellee,

and

SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS AMERICA, INC.,
SAMSUNG TELECOMMUNICATIONS AMERICA, LLC,
Intervenors.

SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS AMERICA, INC.,
SAMSUNG TELECOMMUNICATIONS AMERICA, LLC,
Appellants,

v.

INTERNATIONAL TRADE COMMISSION,
Appellee,

and

APPLE INC.,
Intervenor.

Appeals from the International Trade Commission
in Investigation No. 337-TA-796.

NON-CONFIDENTIAL CORRECTED OPENING BRIEF FOR APPLE INC.

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2. The name of the real party in interest (if the party named in the caption is not the real party in interest) represented by me is:

N/A

3. All parent corporations and any publicly held companies that own 10% or more of the stock of the party or amicus curiae represented by me are:

N/A

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Dated: March 29, 2014

s/ Deanne E. Maynard

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Commission OpinionA29

U.S. Patent No. 7,789,697A583

CONFIDENTIAL MATERIAL OMITTED

The addendum includes a public version of the International Trade Commission's opinion, from which the Commission redacted confidential information. The brief itself contains no redactions.

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STATEMENT OF RELATED CASES

This action has not previously been before this or any other appellate court. Other than the appeal by Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Samsung Telecommunications America, LLC (collectively, “Samsung”) that is consolidated with this appeal by Apple Inc. (“Apple”), counsel for Apple are unaware of any pending case that will affect or be affected directly by this Court’s decision.

JURISDICTIONAL STATEMENT

The United States International Trade Commission instituted an investigation of Samsung under Section 337 of the Tariff Act of 1930, codified as amended at 19 U.S.C. § 1337. The Commission’s final determination issued on August 9, 2013. Apple timely filed its Notice of Appeal and Petition for Review on October 7, 2013. This Court has jurisdiction under 28 U.S.C. § 1295(a)(6).

STATEMENT OF THE ISSUE

Whether the Commission erred by holding U.S. Patent No. 7,789,697 (“697 patent”) anticipated by concluding that the term “accessory component” encompassed a CD player, based on an erroneous claim construction that treated an “electronic device” as synonymous with an “accessory component,” even though the patent makes clear that those two claim requirements are distinct and non-overlapping, and even though the specification expressly describes a standalone media player solely as a type of “electronic device.”

INTRODUCTION

This appeal stems from an investigation by the International Trade Commission into whether Samsung was infringing multiple Apple patents directed to important aspects of Apple’s user interface and hardware. The Commission correctly found a Section 337 violation with respect to two Apple patents: U.S. Patent Nos. 7,479,949 and 7,912,501. A164-A165. The Commission then issued a limited exclusion order and cease-and-desist orders precluding Samsung from

importing, advertising, or selling its infringing products within the United States.

A1-A24. Those orders, which are the subject of Samsung’s appeal, should be affirmed.

But this Court should reverse one aspect of the Commission’s determination. After correctly finding that Samsung infringes the ’697 patent and that Apple had satisfied both the economic and technical prongs of the domestic industry requirement (A123, A132), the Commission nevertheless found no Section 337 violation. A165. Instead, after erroneously construing the asserted claims, the Commission held the infringed claims anticipated. A125-A126. That erroneous conclusion is the subject of this appeal by Apple.

The ’697 patent claims an “electronic device” that detects whether an “accessory component” such as a headset is plugged into the device. Based on that detection, the device uses either the plugged-in accessory component or a different input/output component such as the device’s internal microphone or speaker.

The Commission concluded that the asserted claims of the ’697 patent are anticipated by a prior art MP3 player. The user manual for that MP3 player discloses that a CD player may be plugged into a certain port of the MP3 player. The administrative law judge (“ALJ”) correctly found that the MP3 player did not anticipate; as the ALJ recognized, the manual for the MP3 player merely described the connection of one electronic device (an MP3 player) to a second electronic

device (a CD player), and not an “electronic device” connected to an “accessory component,” as the asserted claims require. The Commission reversed, however, holding that the CD player was an “accessory component.”

The Commission so concluded only by erroneously construing “accessory component” in the asserted claims. The claims distinguish between an “accessory component” and an “electronic device,” and the specification further confirms that they are different. The electronic devices listed in the patent have one or more standalone functions such as playing or recording music or video. Indeed, the first example the specification gives of an “electronic device” is “a music player,” which includes a CD player. By contrast, the specification describes an “accessory component” (consistent with its ordinary meaning) as a component that can be coupled to and used in conjunction with an electronic device. Significantly, none of the accessory components listed in the specification—e.g., a pair of headphones, a speaker, a display, and a microphone—are useful unless coupled to an electronic device.

Under the correct construction of the asserted claims, the Commission’s anticipation determination must be reversed, because a CD player is not an “accessory component.” The investigation thus should be remanded with an order requiring the Commission to modify the exclusion order and cease-and-desist orders to include products that infringe the asserted claims of the ’697 patent.

STATEMENT OF THE CASE

A. Apple's '697 Patent

The '697 patent is directed to electronic devices that can automatically detect whether an accessory component such as a headset or a pair of headphones is plugged into the device's accessory jack. A590(col.1:33-35). Specifically, the invention reliably detects whether the plug of an accessory component has been inserted, and allows the electronic device to be "configured to alter its function based on whether such a plug is present." A590(col.1:22-29).

In this investigation, Apple asserted claims 13 and 14, which are apparatus claims that depend from independent claim 12. Claim 12 claims an electronic device with a "receptacle" (i.e., an accessory jack) into which an accessory component can be plugged. A594(col.9:14-17). The electronic device uses "detection circuitry" to determine whether an accessory component is plugged into the jack. A594(col.9:28). The detection circuitry senses the presence or absence of a plug by determining whether the signal path between two contacts in the receptacle has high impedance (no plug inserted) or low impedance (plug inserted). A594(col.9:28-30). Claim 12 reads in full:

12. An *electronic device* capable of detecting the presence of a plug of an *accessory component*, wherein the plug includes a first plug contact, the *electronic device* comprising:

a receptacle configured to accept the plug;

- a first receptacle contact disposed in the receptacle, wherein the first receptacle contact is configured to communicate with the first plug contact;
- a detect contact disposed in the receptacle relative to the first receptacle contact so that the presence of the plug within the receptacle creates a plug signal path through the plug and between the detect contact and the first receptacle contact, wherein the detect contact and the first receptacle contact both contact the same first plug contact when the plug is present in the receptacle; and
- detection circuitry coupled to the detect contact and the first receptacle contact to detect that the signal path is a low or a high impedance path.

A594(col.9:14-30) (emphases added).

Claim 13 adds the limitation that the electronic device has “a first input/output component” (e.g., an internal microphone and/or speaker) and “control circuitry” that routes input and output to and from either the internal component or an accessory component, depending on whether an accessory component is detected as plugged into the electronic device. A594(col.9:33-40).

Specifically, claim 13 recites:

13. The *electronic device* of claim 12, wherein the *electronic device* further comprises:

- a first input/output component; and
- control circuitry coupled to the detect contact, wherein the control circuitry is configured to instruct the *electronic device* to utilize the first input/output component when a detect signal on

the detect contact has a first value, and wherein the control circuitry is configured to instruct the *electronic device* to utilize the *accessory component* when the detect signal has a second value.

A594(col.9:31-40) (emphases added). Claim 14 further claims:

14. The electronic device of claim 13, wherein the plug signal path is configured to make the detect signal have the second value.

A594(col.9:41-43).

The asserted claims thus expressly distinguish between an “electronic device” and an “accessory component.” A594(col.9:14-15, col.9:35-39). The specification expounds on this distinction, describing the differences between an electronic device and an accessory component.

As the specification explains, an electronic device “may be any electronic device, such as, but not limited to, a music player, video player, still image player, game player, other media player, music recorder, video recorder, camera, other media recorder, radio, medical equipment, calculator, cellular telephone, other wireless communication device, personal digital assistant, remote control, pager, laptop computer, desktop computer, printer, or combinations thereof.”

A590(col.2:39-47).

By contrast, the specification limits an accessory component to “any component that can be coupled to and used in conjunction with electronic device

100, such as, but not limited to, audio speakers, headphones, a video display, microphone, or combinations thereof.” A591(col.3:3-6). Accessory components may be used for input to the electronic device (e.g., a microphone) and/or output from the electronic device (e.g., headphones, external speakers, or a video monitor). A591(col.3:3-14). The specification contains no example of an electronic device that also is an accessory component.

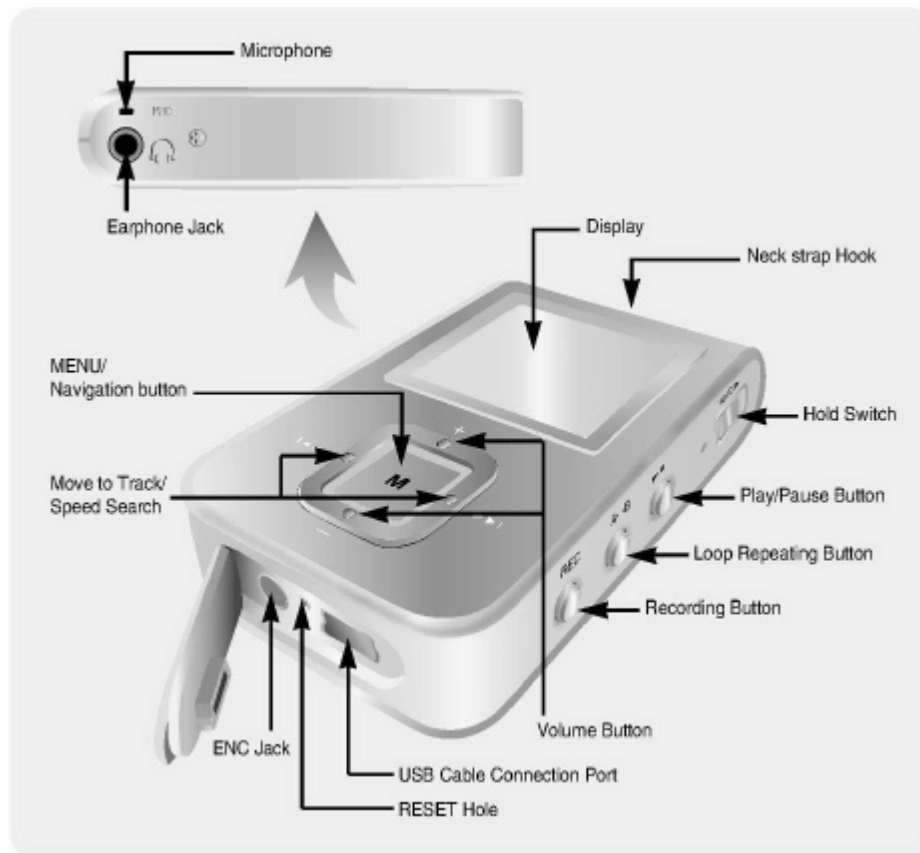
The electronic device also may have its own internal components for performing these input/output functions, such as a built-in microphone and a built-in speaker. A591(col.3:36-44). The device of the invention can switch automatically between these internal components and the external accessory component.

B. Samsung’s Infringing Products

Apple accused 55 models of Samsung’s phones and tablets of infringing claims 13 and 14. A23966-A23968. Reversing the ALJ, the Commission correctly found that all of the accused products infringe. A113-A123. The Commission rejected Samsung’s non-infringement arguments, finding that Samsung’s products contain the claimed detection circuitry coupled to a certain contact within the receptacle, and that the detection circuitry detects whether the signal path is a high impedance path. A116-A123. The Commission also found that Apple had established a domestic industry for the ’697 patent. A123, A132.

C. Samsung's Invalidity Contentions

Samsung argued that the asserted claims of the '697 patent were anticipated by, or obvious in light of, several prior art references, including one of Samsung's media players, the Yepp YP-T7J MP3 player, pictured below:



A28869.

The YP-T7J has two jacks: (1) an “earphone” jack located on the top of the device and (2) an “ENC” port located on the bottom of the device. A28869. The ENC port can be used to connect the YP-T7J to another device via a cable running from the ENC port to the other device. A28875. As the manual explains, the YP-T7J also comes with (1) earphones to be plugged into the earphone jack and

(2) a line-in cable to be plugged into the ENC port. A28869; A28875. However, because there was no evidence that the YP-T7J is capable of detecting whether an accessory component is plugged into the earphone jack, Samsung did not rely on that jack in connection with its invalidity contentions. A29538-A29539.

Instead, Samsung relied on the ENC port. A29538-A29539. There is no evidence that users could connect the ENC port to one or more accessory components, such as headphones, external speakers, a video monitor, or a microphone. Rather, the user manual for the YP-T7J shows that the ENC port could be used to connect the YP-T7J (an electronic device) to a media player (another electronic device), such as a CD player, cassette tape player, or AM/FM radio—to allow the YP-T7J to record music being output from the media player. A28875; *see* A28866 (“You can convert music from CDs, cassettes, and radio into MP3 files without a PC.”). Specifically, the manual shows a CD player connected to the YP-T7J, and it instructs the user to press the play button on the CD player and the record button on the YP-T7J to record music playing on the CD player:

Recording MP3s

1 Connect the Audio OUT port (or Line OUT) on the external audio source to the ENC port on the YP-T7J with the Line cable.

- Press the play button on the external device to play the music to record.

2 Press and hold the REC button to start MP3 recording.

- If the ►|| button is pressed, recording is paused and if the ►|| button is pressed again, the recording resumes.



A28875.

Although a standalone media player is an “electronic device” as that term is defined by the ’697 patent, Samsung relied on the CD player disclosed in the YP-T7J user manual as the “accessory component” of the claims for anticipation purposes.

D. The ALJ’s Initial Determination

The ALJ correctly rejected all of Samsung’s invalidity contentions. A10697-A10735. As to the YP-T7J, the ALJ rejected Samsung’s argument that it discloses an accessory component. A10707-A10711.

The ALJ construed the asserted claims, holding that they “require both ‘an electronic device’ and ‘an accessory component,’” A10709, and that those are “separate limitations” with “different meanings.” A10702-A10703. The ALJ relied on the express definitions in the specification of an “electronic device” as

“any electronic device, such as, but not limited to, a music player, video player, still image player, game player, other media player, [and] music recorder . . . ,” and an “accessory component” as “any component that can be coupled to and used in conjunction with electronic device 100.” A10709-A10710.

Applying that construction, the ALJ acknowledged that “the user manual for the YP-T7J discloses the CD player coupled to and used in conjunction with the YPT7J,” but found that “the evidence fails to establish clearly and convincingly that the CD player is a[n accessory] component as that term is used in the context of the ’697 patent.” A10710. “Rather, the disclosed CD player/external audio source is more akin to ‘an electronic device’ as it is a ‘device with a jack capable of receiving and detecting a plug of an accessory.’” A10710 (quoting A590-A591(col.2:67-col.3:2)). Thus, “the evidence shows that one of ordinary skill in the art at the time of the invention would understand the disclosed CD player/external audio source to be an electronic device and not an accessory component.” A10710-A10711. As such, the ALJ determined that the YP-T7J user manual merely “shows one electronic device coupled to another electronic device.” A10711.

E. The Commission’s Final Determination

The Commission determined that Apple had established infringement and a domestic industry for the ’697 patent, but held the asserted claims anticipated by

the YP-T7J media player. A123, A125-A126, A132. It thus found no Section 337 violation with respect to that patent. A165.

The Commission agreed with the ALJ that the asserted claims require an “electronic device.” A124. The Commission further concluded, however, that the specification “explicitly defines ‘an accessory component’ as ‘any component that can be coupled to and used in conjunction with electronic device 100’ and lists external audio sources as a type of accessory component.” A126 (citing A591(col.3:3-14)). But that construction misreads the examples, which (consistent with the ordinary meaning of “accessory component”) are limited to items that have no meaningful use standing alone.

Based on its erroneous construction, the Commission held that “the ALJ erred in concluding that a CD player, which can be connected to the YP-T7J media player through the [ENC] line-in jack, is not an ‘accessory component.’” A126. The Commission also relied on the disclosure in the YP-T7J manual of “other accessory components such as, earphones.” A126. But Samsung rightly never relied on earphones connected to the YP-T7J (A29538-A29539), because such accessory components would be plugged into the earphone jack of the MP3 player, not the jack Samsung alleged is capable of detection. A28869.

SUMMARY OF ARGUMENT

The Commission's holding that claims 13 and 14 of the '697 patent are anticipated by the YP-T7J media player is based on an erroneous construction of the asserted claims and should be reversed. The asserted claims require an "electronic device" capable of detecting the presence of a plug of an "accessory component." The YP-T7J user manual discloses a CD player plugged into the ENC port of the YP-T7J. A CD player, however, is a standalone electronic device, not an accessory component. The YP-T7J thus cannot anticipate.

The Commission’s construction of “accessory component” as covering a standalone media player is contrary to the claims themselves, which make clear that an “electronic device” and an “accessory component” are two separate and different things. It also is contrary to the specification, which expressly lists standalone media players as types of electronic devices, and which lists as accessory components only things that have no use unless coupled to an electronic device.

Accordingly, the Commission's determination of no Section 337 violation with respect to claims 13 and 14 of the '697 patent should be reversed.

STANDARD OF REVIEW

The Commission’s legal determinations are reviewed de novo, and its factual findings are reviewed for substantial evidence. *Vizio, Inc. v. ITC*, 605 F.3d

1330, 1336 (Fed. Cir. 2010). The meaning of patent claims is reviewed de novo. *Lighting Ballast Control LLC v. Philips Elecs. N. Am. Corp.*, --- F.3d ---, 2014 U.S. App. LEXIS 3176, at *6-7 (Fed. Cir. Feb. 21, 2014) (en banc).

ARGUMENT

THE YP-T7J MEDIA PLAYER DOES NOT ANTICIPATE THE ASSERTED CLAIMS OF THE '697 PATENT

Whether there is a violation of Section 337 with respect to claims 13 and 14 of the '697 patent turns on whether those claims are anticipated by a single prior art reference, the YP-T7J media player. A126. The Commission found that the accused products infringe claims 13 and 14, found that Apple had established a domestic industry, and affirmed the ALJ's determination that Samsung failed to prove anticipation based on any other reference or to prove obviousness. A123-A125, A127-A128, A132. Because the YP-T7J media player does not anticipate under a correct construction of the asserted claims, this Court should reverse the anticipation determination and remand for modification of the exclusion order and cease-and-desist orders to include the Samsung products that infringe the asserted claims.

A. The Question At Issue Is A Legal One Reviewed De Novo

A claim can be rejected as anticipated only if each and every element of the claimed invention is disclosed within the four corners of a single prior art reference. *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1334 (Fed. Cir.

2008). Samsung was required to prove anticipation by clear and convincing evidence. *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349 (Fed. Cir. 2002).

Although anticipation is a factual question, the question here is one of law. There is no factual dispute about how the YP-T7J operates or what the user manual for the YP-T7J discloses. Rather, the ALJ and the Commission reached different conclusions on anticipation because they came to different conclusions about what the asserted claims mean. *Compare* A10709-A10711 *with* A126. Just as the question of infringement “collapses into claim construction—a matter of law” where “the composition of the allegedly infringing process or product is undisputed,” *Desper Prods., Inc. v. QSound Labs, Inc.*, 157 F.3d 1325, 1332-1333 (Fed. Cir. 1998), the question of anticipation collapses into claim construction here as well. *See SmithKline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1341 (Fed. Cir. 2005) (restating the axiom that “that which would literally infringe if later in time anticipates if earlier” (internal quotation marks omitted)). This Court thus should review the Commission’s decision without deference. *Id.* at 1342-1343 (“[W]ithout genuine factual disputes underlying the anticipation inquiry, the issue is ripe for judgment as a matter of law.”).

B. Under A Correct Construction Of The Claims, The YP-T7J Does Not Disclose An “Accessory Component”

Both claim 13 and 14 require an “electronic device” capable of detecting the presence of a plug of an “accessory component.” A594(col.9:14-16); *see*

A594(col.9:38-40) (“control circuitry is configured to instruct the electronic device to utilize the accessory component”). Correctly construed, “accessory component” does not encompass a CD player.

As used in the '697 patent, an electronic device is a device with one or more standalone functions such as playing or recording music or video. A590(col.2:36-52). The patent expressly defines an “electronic device” as including media players; indeed, it lists a music player (e.g., a CD player) first in a list of representative electronic devices. According to the specification, an electronic device “may be any electronic device, such as, but not limited to, *a music player*, video player, still image player, game player, *other media player*, music recorder, video recorder, camera, [or] other media recorder.” A590(col.2:40-43) (emphases added). Electronic devices also include devices such as cellular telephones, laptop computers, and radios. A590(col.2:43-47).

By contrast, the patent uses the term “accessory component” consistent with its ordinary meaning, i.e., an item that is useful in conjunction with something else but is not useful on its own. As the specification explains, an “accessory component” is a component that “can be coupled to and used in conjunction with electronic device 100” (A591(col.3:3-5)), listing items that have no meaningful use as a standalone device, such as “audio speakers, headphones, a video display, microphone, or combinations thereof.” A591(col.3:5-6); *see* A25144-A25145.

Significantly, the '697 patent discloses no example in which a standalone device is classified as an accessory component, and no example in which one standalone device (e.g., a media player) is connected to another standalone device (e.g., another media player).

Given the claim language and specification, the Commission should have concluded—as the ALJ did—that a media player, such as a CD player, is an electronic device and not an accessory component. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-1313 (Fed. Cir. 2005) (en banc) (“the words of a claim are generally given their ordinary and customary meaning” as understood when read “in the context of the entire patent, including the specification” (internal quotation marks omitted)); *ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1375 (Fed. Cir. 2009) (relying on examples from specification to construe “spike” as requiring a pointed spike); *Kinetic Concepts, Inc. v. Blue Sky Med. Grp., Inc.*, 554 F.3d 1010, 1019 (Fed. Cir. 2009) (rejecting broad construction of “wound” because “[a]ll of the examples described in the specification involve skin wounds”).

Instead, the Commission reached the opposite conclusion based on a mistaken reading of the specification as “list[ing] external audio sources as a type of accessory component.” A126. But none of the examples is a standalone device. A591(col.3:5-6). Audio speakers and headphones need a music player or media player to play sound that will be heard via the speakers or headphones. A video

display needs a video player to play the video to be displayed. And a microphone needs a media player or audio recorder to play or record the audio being picked up by the microphone. In other words, all of the accessory components recited in the '697 specification require an electronic device to be useful, and none is described as a standalone media player.

Indeed, the specification’s delineation between electronic devices and accessory components is sharp and non-overlapping. The patent teaches nothing that is *both* an electronic device and an accessory component. And the specification expressly provides that a “music player” falls within the “electronic device” category (A590(col.2:39-41)), and there is no dispute that a CD player is a music player. By contrast, nothing in the specification indicates that “accessory component” can include standalone music players. Rather, as Apple’s expert testified, and the ALJ found, “one of ordinary skill in the art at the time of the invention would understand the disclosed CD player . . . to be an electronic device and not an accessory component.” A10710-A10711; *see* A25145 (“The CD player is instead itself consistent with an electronic device as specified by the ’697 patent, as opposed to an accessory component.”) (Apple’s expert, Joshua Phinney, Ph.D., P.E.).

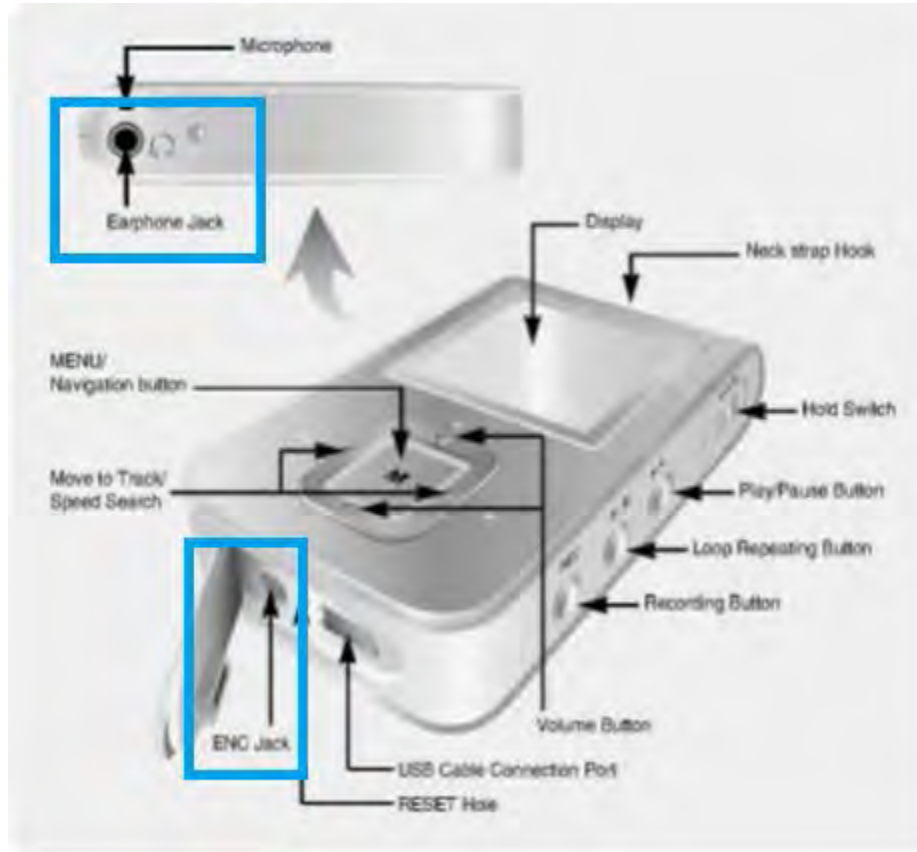
The Commission’s construction also is at odds with the specification’s description of an electronic device. The specification describes “electronic device”

as a device “with a jack” into which an accessory component may be plugged, “so as to allow a user to use the accessory in conjunction with the electronic device.” A590(col.2:53-57). Pointing to the same paragraph from the specification, the ALJ correctly observed that a CD player is an electronic device rather than an accessory component because it has a jack into which accessory components are to be plugged: a CD player “is a ‘device with a jack capable of receiving and detecting a plug of an accessory.’” A10710 (quoting A590-A591(col.2:67-col.3:2)).

Moreover, as the ALJ also correctly concluded, the claims “require both ‘an electronic device’ and ‘an accessory component,’” A10709, and those are “separate limitations” with “different meanings.” A10702-A10703. Treating an electronic device (i.e., a music player) as an accessory component would effectively deprive “accessory component” of independent meaning—which would be error. *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) (“claims are interpreted with an eye toward giving effect to all terms in the claim”). Thus, as the ALJ found, by disclosing an MP3 player coupled to a CD player, “the user manual for the YP-T7J does not disclose an electronic device coupled to an accessory component, but instead shows one electronic device coupled to another electronic device.” A10711.

Finally, contrary to the Commission’s belief, the YP-T7J user manual does not disclose any other items that could be the claimed accessory component. The

Commission observed that “[t]he YP-T7J manual discloses other accessory components such as, earphones.” A126. But earphones and other accessory components are plugged into the 3.5mm earphone jack of the YP-T7J, not into the 2.5mm ENC port that Samsung alleges is the receptacle capable of detecting the presence of a plug. A10708. As shown in the picture below (which depicts the top and main body of the YP-T7J), the YP-T7J has an earphone jack on the top, which is different from the ENC jack on the bottom:



A28869 (blue boxes added).

As depicted below, the user manual shows a CD player plugged into the ENC jack of the YP-T7J, not the earphone jack:



A28875 (blue box added).

Accordingly, accessory components plugged into the earphone jack cannot be relied on to prove anticipation because the earphone jack would not meet other limitations of the claims. *Finisar*, 523 F.3d at 1334.

In sum, because the YP-T7J user manual does not disclose the claimed “accessory component,” it cannot anticipate. *Id.*¹

CONCLUSION

For the foregoing reasons, the Commission’s anticipation determination and its determination that Samsung does not violate Section 337 with respect to the

¹ The Commission affirmed the ALJ’s overall determination that the asserted claims are not obvious in view of the YP-T7J device combined with other devices. A128. In so holding, the Commission reversed the ALJ’s specific finding that an “accessory component” is not disclosed. A127. Although it does not affect the Commission’s ultimate affirmance of the non-obviousness determination, the Commission’s limited reversal of the ALJ’s finding as to “accessory component” is erroneous for the same reasons with respect to obviousness as it is with respect to anticipation.

asserted claims of the '697 patent should be reversed. The investigation should be remanded to the Commission for modification of the exclusion order and cease-and-desist orders to include Samsung products that are covered by either or both of the asserted claims of the '697 patent.

Respectfully submitted,

MARCH 29, 2014

s/ Deanne E. Maynard

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ADDENDUM

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of

**CERTAIN ELECTRONIC DIGITAL
MEDIA DEVICES AND COMPONENTS
THEREOF**

Investigation No. 337-TA-796

**NOTICE OF COMMISSION'S FINAL DETERMINATION FINDING A VIOLATION
OF SECTION 337; ISSUANCE OF A LIMITED EXCLUSION ORDER AND CEASE
AND DESIST ORDERS; TERMINATION OF THE INVESTIGATION**

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has found a violation of section 337 in this investigation and has issued a limited exclusion order prohibiting respondents Samsung Electronics Co, Ltd. of the Republic of Korea ("SEC"); Samsung Electronics America, Inc. of Ridgefield Park, New Jersey ("SEA"); and Samsung Telecommunications America, LLC of Richardson, Texas ("STA") (collectively, "Samsung"), from importing certain electronic digital media devices that infringe one or more of claims 1, 4-6, 10, and 17-20 of U.S. Patent No. 7,479,949 ("the '949 patent") and claims 1-4 and 8 of U.S. Patent No. 7,912,501 ("the '501 patent"). The Commission has also issued cease and desist orders prohibiting SEA and STA from further importing, selling, and distributing articles that infringe one or more of claims 1, 4-6, 10, and 17-20 of the '949 patent and claims 1-4 and 8 of the '501 patent in the United States. The Commission has found no violation based on U.S. Patent Nos. D618,678 ("the D'678 patent"); D558,757 ("the D'757 patent"); RE 41,922 ("the '922 patent"); and 7,789,697 ("the '697 patent"). The Commission's determination is final, and the investigation is terminated.

FOR FURTHER INFORMATION CONTACT: Cathy Chen, Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2392. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server at <http://www.usitc.gov>. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <http://edis.usitc.gov>. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

SUPPLEMENTARY INFORMATION: The Commission instituted this investigation on August 5, 2011, based on a complaint filed by Apple Inc. (“Apple”) of Cupertino, California. 76 *Fed. Reg.* 47610 (Aug. 5, 2011). The complaint alleges violations of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain electronic digital media devices and components thereof by reason of infringement of certain claims of the ’949, the ’922, the ’697, the ’501, the D’757, and the D’678 patents, and U.S. Patent No. 7,863,533 (“the ’533 patent”). Samsung was named as a respondent in the Commission’s notice of investigation. A Commission investigative attorney (“IA”) participated in the investigation.

On May 3, 2012, the presiding administrative law judge (“ALJ”) issued an initial determination (“ID”) partially terminating the investigation with respect to all claims of the ’533 patent; claims 1-3, 11, 12, 15, 16 and 21-27 of the ’697 patent; and claim 3 of the ’949 patent (Order No. 17) (not reviewed by the Commission, May 3, 2012).

On October 24, 2012, the ALJ issued his final ID in this investigation finding a violation of section 337 in connection with the claim of the D’678 patent; claims 1, 4-6 and 10-20 of the ’949 patent; claims 29, 30 and 33-35 of the ’922 patent; and claims 1-4 and 8 of the ’501 patent. The ALJ found no violation of section 337 in connection with the claim of the D’757 patent; claims 31 and 32 of the ’922 patent; and claims 13 and 14 of the ’697 patent. The ALJ also found that the asserted claims were not shown to be invalid. The ALJ further found that a domestic industry in the United States exists that practices the ’949, the ’922, the ’501, the D’757, and the D’678 patents, but not the ’697 patent. On November 7, 2012, the ALJ issued his recommended determination on remedy and bonding.

Apple and Samsung filed timely petitions for review of various portions of the final ID, as well as timely responses to the petitions. The IA filed only a response to the petitions for review. On December 3, 2012, Apple and Samsung filed public interest comments pursuant to Commission rule 210.50(a)(4). That same day, non-party Google filed a submission in response to the Notice of Request for Statements on the Public Interest. *See* 77 *Fed. Reg.* 68829-30 (Nov. 16, 2012).

On January 23, 2013, the Commission determined to review the final ID in its entirety, and remand the investigation to the ALJ with respect to certain issues related to the ’922 patent and the ’501 patent, as set forth in the Remand Order. 78 *Fed. Reg.* 6130 (Jan. 29, 2013).

On March 26, 2013, the ALJ issued his remand initial determination (“RID”). The RID found that claims 34 and 35 of the ’922 patent are infringed by the text-selection feature of the accused products and that claim 3 of the ’501 patent is not infringed by the accused products represented by the Transform SPH-M920. On April 9, 2013, Apple and Samsung petitioned for review of the RID. The IA did not petition for review of the RID. On April 17, 2013, Apple, Samsung and the IA filed their respective responses to the petitions for review.

On May 28, 2013, the Commission determined to review the RID in its entirety. In connection with the Commission's review of the final ID and the RID, the parties were invited to brief certain issues, including issues related to remedy and the public interest. The Commission received responses from Apple, Samsung, and the IA addressing all of the Commission's questions. In response to the remedy and public interest questions posed to the public, the Commission received responses from the following: Americans for Job Security; Associated Carrier Group; Capital Policy Analytics; Congresswoman Eva M. Clayton; Congressmen Hakeem S. Jeffries and Henry C. Johnson, Jr.; Congressmen Bill Pascrell, Jr., Hank Johnson, Albio Sires, Dan Maffei, Terri Sewell, and Steve Israel; Congressman Pete Sessions; CTIA – The Wireless Association; Mr. Dennis C. Vacco, Esq.; Digital Liberty and Property Rights Alliance; Google, Inc.; Health IT Now.org; Hispanic Leadership Fund; Homecare Homebase, LLC; Institute for Policy Innovation; James Valley Telecommunications; Texas State Senator Ken Paxton; Texas State Senator Kirk Watson; The LIBRE Initiative; National Black Chamber of Commerce; National Grange of the Order of Patrons of Husbandry (“National Grange”); The Newborn Coalition; Revol Wireless; Senator Robert Menendez; Sprint Spectrum, L.P.; Taxpayers Protection Alliance; Ting Wireless; Congressman Trent Franks; American Agri-Women *et al.*; and United States Cellular Corporation.

Having examined the record of this investigation, including the ALJ's final ID, RID and submissions from the parties, the Commission has determined that Apple has proven a violation of section 337 based on articles that infringe claims 1, 4-6, 10, and 17-20 of the '949 patent and claims 1-4 and 8 of the '501 patent. Specifically, with respect to the '949 patent, the Commission has determined to affirm the ALJ's constructions of disputed claim terms and his conclusion that Apple has proven a violation of section 337 based on articles that infringe claims 1, 4-6, 10, and 17-20 of the '949 patent. The Commission affirms, with modified reasoning, the ALJ's conclusion that Apple failed to prove that Samsung contributorily infringes claims 11-16 of the '949 patent. The Commission, however, has determined to reverse the ALJ's conclusion that Apple has proven that Samsung induced infringement of claims 11-16 of the '949 patent. With some modifications to the ALJ's analysis, the Commission has also determined that the record supports the ALJ's conclusions that the Continuum SCH-1400 infringes all of the asserted claims of the '501 patent; that the accused Samsung devices represented by Transform SPH-M920 infringe claims 1-2 and 8, but not claims 3 and 4 of the '501 patent; and that the accused Samsung devices represented by Galaxy Tab 7.0 and Galaxy S II do not infringe any of the asserted claims of the '501 patent. The Commission has further determined that the asserted claims of the '949 and the '501 patents have not been proven by Samsung to be invalid and that Apple has proven that a domestic industry exists in the United States relating to articles protected by the '949 and the '501 patents.

In addition, the Commission has determined that Apple has not proven a violation based on alleged infringement of the D'678, the D'757, the '922, and the '697 patents. Specifically, the Commission has determined that the asserted claim of the D'678 patent is valid but not infringed, and that Apple's iPhone, iPhone 4 and iPhone 4S practice the D'678 patent, but not the iPhone 3G and iPhone 3GS. The Commission has also determined that the asserted claim of the D'757 patent is valid but not infringed, and Apple's iPhone 3G and 3GS do not practice the D'757 patent. With some modifications to the ALJ's analysis for the '922 patent, the

Commission has determined to affirm the ALJ's constructions of disputed claim terms, and the ALJ's conclusion that Apple failed to prove that Samsung contributorily infringes the asserted claims of the '922 patent. The Commission, however, has determined to reverse the ALJ's conclusion that Apple has proven that Samsung induced infringement of the asserted claims of the '922 patent. With respect to the '697 patent, the Commission has determined to modify the ALJ's construction and application of certain disputed terms in the asserted claims. Under the modified constructions, the Commission has determined that Apple has proven that the accused Samsung devices infringe the asserted claims of the '697 patent and that Apple's domestic industry products practice the '697 patent. The Commission, however, ultimately finds that Apple has not proven a violation of section 337 with respect to the '697 patent because Samsung has proven with clear and convincing evidence that the asserted claims are invalid as anticipated by the YP-T7J media player. The Commission has further determined that Apple has proven a domestic industry exists in the United States relating to articles protected by the D'678, the '922 and the '697 patents, but not the D'757 patent.

The Commission has determined that the appropriate remedy is a limited exclusion order prohibiting Samsung from importing certain electronic digital media devices that infringe one or more of claims 1, 4-6, 10, and 17-20 of the '949 patent and claims 1-4 and 8 of the '501 patent. The Commission has also determined to issue cease and desist orders prohibiting SEA and STA from further importing, selling, and distributing articles that infringe one or more of claims 1, 4-6, 10, and 17-20 of the '949 patent and claims 1-4 and 8 of the '501 patent in the United States. The orders do not apply to the adjudicated design around products found not to infringe the asserted claims of the '949 and the '501 patents as identified in the final ID. The Commission has carefully considered the submissions of the parties and the public and has determined that the public interest factors enumerated in section 337(d)(1) and (f)(1) do not preclude issuance of the limited exclusion order and cease and desist orders.

Finally, the Commission has determined that excluded mobile phones, media players, and tablet computers may be imported and sold in the United States during the period of Presidential review (19 U.S.C. § 1337(j)) with the posting of a bond in the amount of 1.25 percent of the entered value. The Commission's order and opinion were delivered to the President and to the United States Trade Representative on the day of their issuance.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), and in Part 210 of the Commission's Rules of Practice and Procedure (19 C.F.R. Part 210).

By order of the Commission.



Lisa R. Barton
Acting Secretary to the Commission

Issued: August 9, 2013

**UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.**

In the Matter of

**CERTAIN ELECTRONIC DIGITAL
MEDIA DEVICES AND COMPONENTS
THEREOF**

Investigation No. 337-TA-796

LIMITED EXCLUSION ORDER

The Commission has determined that there is a violation of Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), in the unlawful importation, sale for importation, and sale after importation by Respondents Samsung Electronics Co., Ltd., Samsung Electronics America, Inc. and Samsung Telecommunications America, LLC, of certain electronic digital media devices covered by one or more of claims 1, 4-6, 10, and 17-20 of U.S. Patent No. 7,479,949 (“the ’949 patent”) and claims 1-4 and 8 of U.S. Patent No. 7,912,501 (“the ’501 patent”).

Having reviewed the record of this investigation, including the written submissions of the parties and the public, the Commission has made its determination on the issues of remedy, the public interest, and bonding. The Commission has determined that the appropriate form of relief is a limited exclusion order prohibiting the unlicensed entry of covered electronic digital media devices manufactured for or on behalf of Respondents or any of their affiliated companies, parents, subsidiaries, licensees, or other related business entities, or their successors or assigns.

The Commission has also determined that the public interest factors enumerated in 19 U.S.C. § 1337(d) do not preclude the issuance of the limited exclusion order, and that the bond during the Presidential review period shall be in the amount of 1.25 percent of entered

value for covered mobile phones, media players, and tablet computers, and without bond for any other covered products.

Accordingly, the Commission hereby **ORDERS** that:

1. Electronic digital media devices covered by one or more of claims 1, 4-6, 10 and 17-20 of the '949 patent and claims 1-4 and 8 of the '501 patent, and that are manufactured abroad by or on behalf of, or imported by or on behalf of, Respondents or any of their affiliated companies, parents, subsidiaries, or other related business entities, or their successors or assigns, are excluded from entry for consumption into the United States, entry for consumption from a foreign trade zone, or withdrawal from a warehouse for consumption, for the remaining terms of the patents, except under license of the patent owner or as provided by law, and except for refurbished articles imported on or before August 31, 2015, for use as a replacement for an identical article that was imported prior to the date of this Order.
2. Notwithstanding paragraph 1 of this Order, the aforesaid electronic digital media devices are entitled to entry into the United States for consumption, entry for consumption from a foreign-trade zone, or withdrawal from a warehouse for consumption under bond in the amount of 1.25 percent of entered value for covered mobile phones, media players, and tablet computers, and without bond for any other covered products, pursuant to subsection (j) of Section 337 (19 U.S.C. § 1337(j)) and the Presidential Memorandum for the United States Trade Representative of July 21, 2005 (70 *Fed. Reg.* 43,251), from the day after this Order is received by the United States Trade Representative until such time as

the United States Trade Representative notifies the Commission that this Order is approved or disapproved but, in any event, not later than sixty days after the date of receipt of this Order.

3. At the discretion of U.S. Customs and Border Protection ("CBP") and pursuant to procedures that it establishes, persons seeking to import electronic digital media devices that are potentially subject to this Order may be required to certify that they are familiar with the terms of this Order, that they have made appropriate inquiry, and thereupon state that, to the best of their knowledge and belief, the products being imported are not excluded from entry under paragraph 1 of this Order. At its discretion, CBP may require persons who have provided the certification described in this paragraph to furnish such records or analyses as are necessary to substantiate the certification.
4. The provisions of this Order shall not apply to the following design around electronic digital media devices and any electronic digital media devices incorporating the design arounds found to be non-infringing as detailed in the Initial Determination on Violation of Section 337 and Recommended Determination on Remedy and Bond at pages 11 and 163: Galaxy Tab GT-P7500, Galaxy Tab 10.1 SCH-I905 (modified), Indulge SCH-R915, Epic 4G SPH-D700, Replenish SPH-M580, Galaxy Prevail SPH-M820, Galaxy Attain 4G SCH-R920, Galaxy S II Skyrocket SCH-I727, Galaxy S II SGH-I777, Captivate

Glide SGH-I927, Galaxy S II Epic 4G Touch SPH-D710, Droid Charge SCH-I510, Galaxy Note SCH-I717.¹

5. In accordance with 19 U.S.C. § 1337(l), the provisions of this Order shall not apply to electronic digital media devices imported by and for the use of the United States, or imported for, and to be used for, the United States with the authorization or consent of the Government.
6. The Commission may modify this Order in accordance with the procedures described in section 210.76 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.76).
7. The Secretary shall serve copies of this Order upon each party of record in this investigation and upon the Department of Health and Human Services, the Department of Justice, the Federal Trade Commission, and CBP.
8. Notice of this Order shall be published in the *Federal Register*.

By order of the Commission.



Lisa R. Barton

Acting Secretary to the Commission

Issued: August 9, 2013

¹ These design around products for the '949 and the '501 patents are identified on pages 11 and 12 of the Initial Determination on Violation of Section 337 and Recommended Determination on Remedy and Bond.

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of

**CERTAIN ELECTRONIC DIGITAL
MEDIA DEVICES AND COMPONENTS
THEREOF**

Investigation No. 337-TA-796

CEASE AND DESIST ORDER

IT IS HEREBY ORDERED THAT Samsung Electronics America, Inc., 85 Challenger Road, Ridgefield Park, NJ 07660, cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, transferring (except for exportation), and soliciting U.S. agents or distributors for, electronic digital media devices covered by one or more of claims 1, 4-6, 10 and 17-20 of U.S. Patent No. 7,479,949 (“the ’949 patent”) and claims 1-4 and 8 of U.S. Patent No. 7,912,501 (“the ’501 patent”), in violation of Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337).

I.

Definitions

As used in this order:

- (A) “Commission” shall mean the United States International Trade Commission.
- (B) “Complainant” shall mean Apple, Inc., 1 Infinite Loop, Cupertino, CA 95014.
- (C) “Respondent” shall mean Samsung Electronics America, Inc., 85 Challenger Road, Ridgefield Park, NJ 07660.
- (D) “Person” shall mean an individual, or any non-governmental partnership, firm, association, corporation, or other legal or business entity other than Respondent or its majority-owned or controlled subsidiaries, successors, or assigns.

- (E) “United States” shall mean the fifty States, the District of Columbia, and Puerto Rico.
- (F) The terms “import” and “importation” refer to importation for entry for consumption under the Customs laws of the United States.
- (G) The term “covered products” shall mean electronic digital media devices covered by one or more of claims 1, 4-6, 10, and 17-20 of the ’949 patent and claims 1-4 and 8 of the ’501 patent. Covered products shall not include the following design around electronic digital media devices and any electronic digital media devices incorporating the design arounds found to be non-infringing as detailed in the Initial Determination on Violation of Section 337 and Recommended Determination on Remedy and Bond at pages 11 and 163: Galaxy Tab GT-P7500, Galaxy Tab 10.1 SCH-I905 (modified), Indulge SCH-R915, Epic 4G SPH-D700, Replenish SPH-M580, Galaxy Prevail SPH-M820, Galaxy Attain 4G SCH-R920, Galaxy S II Skyrocket SCH-I727, Galaxy S II SGH-I777, Captivate Glide SGH-I927, Galaxy S II Epic 4G Touch SPH-D710, Droid Charge SCH-I510, Galaxy Note SCH-I717.¹ Covered products shall also not include articles for which a provision of law or license avoids liability for the infringement of the claims listed above.

II.

Applicability

The provisions of this Cease and Desist Order shall apply to Respondent and to any of its principals, stockholders, officers, directors, employees, agents, licensees, distributors, controlled

¹ These design around products for the ’949 and the ’501 patents are identified on pages 11 and 12 of the Initial Determination on Violation of Section 337 and Recommended Determination on Remedy and Bond.

(whether by stock ownership or otherwise) and majority-owned business entities, successors, and assigns, and to each of them, insofar as they are engaging in conduct prohibited by section III, *infra*, for, with, or otherwise on behalf of, Respondent.

III.

Conduct Prohibited

The following conduct of Respondent in the United States is prohibited by this Order.

For the remaining term of the relevant '949 or '501 patent, Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, sell, or otherwise transfer (except for exportation), in the United States imported covered products;
- (C) advertise imported covered products;
- (D) solicit U.S. agents or distributors for imported covered products; or
- (E) aid or abet other entities in the importation, sale for importation, sale after importation, transfer, or distribution of covered products.

IV.

Conduct Permitted

Notwithstanding any other provision of this Order, Respondent shall be permitted:

- A. On or before August 31, 2015, to distribute refurbished covered articles for use as a replacement for an identical covered article that was imported prior to the date of this Order;
- B. To engage in specific conduct otherwise prohibited by the terms of this Order if, in a written instrument, the owner of the '949 and '501 patents licenses or authorizes such specific conduct; or

C. To engage in specific conduct otherwise prohibited by the terms of this Order if such specific conduct is related to the importation or sale of covered products by or for the United States.

V.

Reporting

For purposes of this requirement, the reporting periods shall commence on February 1 of each year and shall end on the subsequent January 31. The first report required under this section shall cover the period from the date of issuance of this order through January 31, 2014. This reporting requirement shall continue in force until such time as Respondent has truthfully reported, in two consecutive timely filed reports, that it has no inventory of covered products in the United States.

Within thirty (30) days of the last day of the reporting period, Respondent shall report to the Commission: (a) the quantity in units and the value in dollars of covered products that it has (i) imported and/or (ii) sold in the United States after importation during the reporting period, and (b) the quantity in units and value in dollars of reported covered products that remain in inventory in the United States at the end of the reporting period. When filing written submissions, Respondent must file the original document electronically on or before the deadlines stated above and submit eight (8) true paper copies to the Office of the Secretary by noon the next day pursuant to section 210.4(f) of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.4(f)). Submissions should refer to the investigation number ("Inv. No. 337-TA-796") in a prominent place on the cover pages and/or the first page. (*See Handbook for Electronic Filing Procedures*, http://www.usitc.gov/secretary/fed_reg_notices/rules/handbook_on_electronic_filing.pdf). Persons with questions regarding filing should contact the Secretary (202-205-2000). If Respondent desires to submit a document to the Commission in

confidence, it must file the original and a public version of the original with the Office of the Secretary and must serve a copy of the confidential version on Complainants' counsel.²

Any failure to make the required report or the filing of any false or inaccurate report shall constitute a violation of this Order, and the submission of a false or inaccurate report may be referred to the U.S. Department of Justice as a possible criminal violation of 18 U.S.C. § 1001.

VI.

Record-Keeping and Inspection

- (A) For the purpose of securing compliance with this Order, Respondent shall retain any and all records relating to the sale, offer for sale, marketing, or distribution in the United States of covered products, made and received in the usual and ordinary course of business, whether in detail or in summary form, for a period of three (3) years from the close of the fiscal year to which they pertain.
- (B) For the purposes of determining or securing compliance with this Order and for no other purpose, subject to any privilege recognized by the federal courts of the United States, and upon reasonable written notice by the Commission or its staff, duly authorized representatives of the Commission shall be permitted access and the right to inspect and copy, in Respondent's principal offices during office hours, and in the presence of counsel or other representatives if Respondent so chooses, all books, ledgers, accounts, correspondence, memoranda, and other records and documents, in detail and in summary form, that must be retained under subparagraph VI(A) of this Order.

² Complainant must file a letter with the Secretary identifying the attorney to receive reports and bond information associated with this Order. The designated attorney must be on the protective order entered in the investigation.

VII.

Service of Cease and Desist Order

Respondent is ordered and directed to:

- (A) Serve, within fifteen days after the effective date of this Order, a copy of this Order upon each of its respective officers, directors, managing agents, agents, and employees who have any responsibility for the importation, marketing, distribution, or sale of imported covered products in the United States;
- (B) Serve, within fifteen days after the succession of any persons referred to in subparagraph VII(A) of this order, a copy of the Order upon each successor; and
- (C) Maintain such records as will show the name, title, and address of each person upon whom the Order has been served, as described in subparagraphs VII(A) and VII(B) of this order, together with the date on which service was made.

The obligations set forth in subparagraphs VII(B) and VII(C) shall remain in effect until the expiration dates of the '949 and '501 patents.

VIII.

Confidentiality

Any request for confidential treatment of information obtained by the Commission pursuant to section VI of this order should be made in accordance with section 201.6 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 201.6). For all reports for which confidential treatment is sought, Respondent must provide a public version of such report with confidential information redacted.

IX.

Enforcement

Violation of this order may result in any of the actions specified in section 210.75 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.75), including an action for

civil penalties under section 337(f) of the Tariff Act of 1930 (19 U.S.C. § 1337(f)), as well as any other action that the Commission deems appropriate. In determining whether Respondent is in violation of this order, the Commission may infer facts adverse to Respondent if it fails to provide adequate or timely information.

X.

Modification

The Commission may amend this order on its own motion or in accordance with the procedure described in section 210.76 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.76).

XI.

Bonding

The conduct prohibited by section III of this order may be continued during the sixty-day period in which this Order is under review by the United States Trade Representative, as delegated by the President (70 *Fed. Reg.* 43,251 (Jul. 21, 2005)), subject to Respondent posting a bond in the amount of 1.25 percent of entered value for covered mobile phones, media players, and tablet computers, and without bond for any other covered products. This bond provision does not apply to conduct that is otherwise permitted by Section IV of this Order. Covered products imported on or after the date of issuance of this order are subject to the entry bond as set forth in the limited exclusion order issued by the Commission, and are not subject to this bond provision.

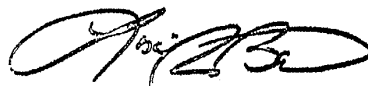
The bond is to be posted in accordance with the procedures established by the Commission for the posting of bonds by complainants in connection with the issuance of temporary exclusion orders. (*See* 19 C.F.R. § 210.68.) The bond and any accompanying documentation is to be provided to and approved by the Commission prior to the commencement

of conduct which is otherwise prohibited by Section III of this Order. Upon acceptance of the bond by the Secretary, (a) the Secretary will serve an acceptance letter on all parties and (b) Respondent must serve a copy of the bond and any accompanying documentation on Complainant's counsel.³

The bond is to be forfeited in the event that the United States Trade Representative approves, or does not disapprove within the review period, this Order, unless the U.S. Court of Appeals for the Federal Circuit, in a final judgment, reverses any Commission final determination and order as to a Respondent on appeal, or unless Respondent exports or destroys the products subject to this bond and provides certification to that effect satisfactory to the Commission.

The bond is to be released in the event the United States Trade Representative disapproves this Order and no subsequent order is issued by the Commission and approved, or not disapproved, by the United States Trade Representative, upon service on Respondent of an order issued by the Commission based upon application therefore made by Respondent to the Commission.

By order of the Commission.



Lisa R. Barton
Acting Secretary to the Commission

Issued: August 9, 2013

³ See Footnote 2.

**UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.**

In the Matter of

**CERTAIN ELECTRONIC DIGITAL
MEDIA DEVICES AND COMPONENTS
THEREOF**

Investigation No. 337-TA-796

CEASE AND DESIST ORDER

IT IS HEREBY ORDERED THAT Samsung Telecommunications America, LLC, 1301 East Lookout Drive, Richardson, TX 75082, cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, transferring (except for exportation), and soliciting U.S. agents or distributors for, electronic digital media devices covered by one or more of claims 1, 4-6, 10 and 17-20 of U.S. Patent No. 7,479,949 (“the ’949 patent”) and claims 1-4 and 8 of U.S. Patent No. 7,912,501 (“the ’501 patent”), in violation of Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337).

I.

Definitions

As used in this order:

- (A) “Commission” shall mean the United States International Trade Commission.
- (B) “Complainant” shall mean Apple, Inc., 1 Infinite Loop, Cupertino, CA 95014.
- (C) “Respondent” shall mean Samsung Telecommunications America, LLC, 1301 East Lookout Drive, Richardson, TX 75082.
- (D) “Person” shall mean an individual, or any non-governmental partnership, firm, association, corporation, or other legal or business entity other than Respondent or its majority-owned or controlled subsidiaries, successors, or assigns.

- (E) "United States" shall mean the fifty States, the District of Columbia, and Puerto Rico.
- (F) The terms "import" and "importation" refer to importation for entry for consumption under the Customs laws of the United States.
- (G) The term "covered products" shall mean electronic digital media devices covered by one or more of claims 1, 4-6, 10, and 17-20 of the '949 patent and claims 1-4 and 8 of the '501 patent. Covered products shall not include the following design around electronic digital media devices and any electronic digital media devices incorporating the design arounds found to be non-infringing as detailed in the Initial Determination on Violation of Section 337 and Recommended Determination on Remedy and Bond at pages 11 and 163: Galaxy Tab GT-P7500, Galaxy Tab 10.1 SCH-I905 (modified), Indulge SCH-R915, Epic 4G SPH-D700, Replenish SPH-M580, Galaxy Prevail SPH-M820, Galaxy Attain 4G SCH-R920, Galaxy S II Skyrocket SCH-I727, Galaxy S II SGH-I777, Captivate Glide SGH-I927, Galaxy S II Epic 4G Touch SPH-D710, Droid Charge SCH-I510, Galaxy Note SCH-I717.¹ Covered products shall also not include articles for which a provision of law or license avoids liability for the infringement of the claims listed above.

II.

Applicability

The provisions of this Cease and Desist Order shall apply to Respondent and to any of its principals, stockholders, officers, directors, employees, agents, licensees, distributors, controlled

¹ These design around products for the '949 and the '501 patents are identified on pages 11 and 12 of the Initial Determination on Violation of Section 337 and Recommended Determination on Remedy and Bond.

(whether by stock ownership or otherwise) and majority-owned business entities, successors, and assigns, and to each of them, insofar as they are engaging in conduct prohibited by section III, *infra*, for, with, or otherwise on behalf of, Respondent.

III.

Conduct Prohibited

The following conduct of Respondent in the United States is prohibited by this Order.

For the remaining term of the relevant '949 or '501 patent, Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, sell, or otherwise transfer (except for exportation), in the United States imported covered products;
- (C) advertise imported covered products;
- (D) solicit U.S. agents or distributors for imported covered products; or
- (E) aid or abet other entities in the importation, sale for importation, sale after importation, transfer, or distribution of covered products.

IV.

Conduct Permitted

Notwithstanding any other provision of this Order, Respondent shall be permitted:

- A. On or before August 31, 2015, to distribute refurbished covered articles for use as a replacement for an identical covered article that was imported prior to the date of this Order;
- B. To engage in specific conduct otherwise prohibited by the terms of this Order if, in a written instrument, the owner of the '949 and '501 patents licenses or authorizes such specific conduct; or

C. To engage in specific conduct otherwise prohibited by the terms of this Order if such specific conduct is related to the importation or sale of covered products by or for the United States.

V.

Reporting

For purposes of this requirement, the reporting periods shall commence on February 1 of each year and shall end on the subsequent January 31. The first report required under this section shall cover the period from the date of issuance of this order through January 31, 2014. This reporting requirement shall continue in force until such time as Respondent has truthfully reported, in two consecutive timely filed reports, that it has no inventory of covered products in the United States.

Within thirty (30) days of the last day of the reporting period, Respondent shall report to the Commission: (a) the quantity in units and the value in dollars of covered products that it has (i) imported and/or (ii) sold in the United States after importation during the reporting period, and (b) the quantity in units and value in dollars of reported covered products that remain in inventory in the United States at the end of the reporting period. When filing written submissions, Respondent must file the original document electronically on or before the deadlines stated above and submit eight (8) true paper copies to the Office of the Secretary by noon the next day pursuant to section 210.4(f) of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.4(f)). Submissions should refer to the investigation number ("Inv. No. 337-TA-796") in a prominent place on the cover pages and/or the first page. (*See Handbook for Electronic Filing Procedures*, http://www.usitc.gov/secretary/fed_reg_notices/rules/handbook_on_electronic_filing.pdf). Persons with questions regarding filing should contact the Secretary (202-205-2000). If Respondent desires to submit a document to the Commission in

confidence, it must file the original and a public version of the original with the Office of the Secretary and must serve a copy of the confidential version on Complainants' counsel.²

Any failure to make the required report or the filing of any false or inaccurate report shall constitute a violation of this Order, and the submission of a false or inaccurate report may be referred to the U.S. Department of Justice as a possible criminal violation of 18 U.S.C. § 1001.

VI.

Record-Keeping and Inspection

- (A) For the purpose of securing compliance with this Order, Respondent shall retain any and all records relating to the sale, offer for sale, marketing, or distribution in the United States of covered products, made and received in the usual and ordinary course of business, whether in detail or in summary form, for a period of three (3) years from the close of the fiscal year to which they pertain.
- (B) For the purposes of determining or securing compliance with this Order and for no other purpose, subject to any privilege recognized by the federal courts of the United States, and upon reasonable written notice by the Commission or its staff, duly authorized representatives of the Commission shall be permitted access and the right to inspect and copy, in Respondent's principal offices during office hours, and in the presence of counsel or other representatives if Respondent so chooses, all books, ledgers, accounts, correspondence, memoranda, and other records and documents, in detail and in summary form, that must be retained under subparagraph VI(A) of this Order.

² Complainant must file a letter with the Secretary identifying the attorney to receive reports and bond information associated with this Order. The designated attorney must be on the protective order entered in the investigation.

VII.

Service of Cease and Desist Order

Respondent is ordered and directed to:

- (A) Serve, within fifteen days after the effective date of this Order, a copy of this Order upon each of its respective officers, directors, managing agents, agents, and employees who have any responsibility for the importation, marketing, distribution, or sale of imported covered products in the United States;
- (B) Serve, within fifteen days after the succession of any persons referred to in subparagraph VII(A) of this order, a copy of the Order upon each successor; and
- (C) Maintain such records as will show the name, title, and address of each person upon whom the Order has been served, as described in subparagraphs VII(A) and VII(B) of this order, together with the date on which service was made.

The obligations set forth in subparagraphs VII(B) and VII(C) shall remain in effect until the expiration dates of the '949 and '501 patents.

VIII.

Confidentiality

Any request for confidential treatment of information obtained by the Commission pursuant to section VI of this order should be made in accordance with section 201.6 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 201.6). For all reports for which confidential treatment is sought, Respondent must provide a public version of such report with confidential information redacted.

IX.

Enforcement

Violation of this order may result in any of the actions specified in section 210.75 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.75), including an action for

civil penalties under section 337(f) of the Tariff Act of 1930 (19 U.S.C. § 1337(f)), as well as any other action that the Commission deems appropriate. In determining whether Respondent is in violation of this order, the Commission may infer facts adverse to Respondent if it fails to provide adequate or timely information.

X.

Modification

The Commission may amend this order on its own motion or in accordance with the procedure described in section 210.76 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.76).

XI.

Bonding

The conduct prohibited by section III of this order may be continued during the sixty-day period in which this Order is under review by the United States Trade Representative, as delegated by the President (70 *Fed. Reg.* 43,251 (Jul. 21, 2005)), subject to Respondent posting a bond in the amount of 1.25 percent of entered value for covered mobile phones, media players, and tablet computers, and without bond for any other covered products. This bond provision does not apply to conduct that is otherwise permitted by Section IV of this Order. Covered products imported on or after the date of issuance of this order are subject to the entry bond as set forth in the limited exclusion order issued by the Commission, and are not subject to this bond provision.

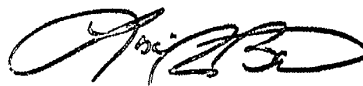
The bond is to be posted in accordance with the procedures established by the Commission for the posting of bonds by complainants in connection with the issuance of temporary exclusion orders. (*See* 19 C.F.R. § 210.68.) The bond and any accompanying documentation is to be provided to and approved by the Commission prior to the commencement

of conduct which is otherwise prohibited by Section III of this Order. Upon acceptance of the bond by the Secretary, (a) the Secretary will serve an acceptance letter on all parties and (b) Respondent must serve a copy of the bond and any accompanying documentation on Complainant's counsel.³

The bond is to be forfeited in the event that the United States Trade Representative approves, or does not disapprove within the review period, this Order, unless the U.S. Court of Appeals for the Federal Circuit, in a final judgment, reverses any Commission final determination and order as to a Respondent on appeal, or unless Respondent exports or destroys the products subject to this bond and provides certification to that effect satisfactory to the Commission.

The bond is to be released in the event the United States Trade Representative disapproves this Order and no subsequent order is issued by the Commission and approved, or not disapproved, by the United States Trade Representative, upon service on Respondent of an order issued by the Commission based upon application therefore made by Respondent to the Commission.

By order of the Commission.



Lisa R. Barton
Acting Secretary to the Commission

Issued: August 9, 2013

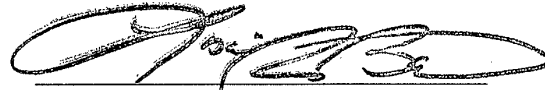
³ See Footnote 2.

Page 1 – Certificate of Service

**CERTAIN ELECTRONIC DIGITAL MEDIA DEVICES AND 337-TA-796
COMPONENTS THEREOF**

CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **COMMISSION NOTICE** has been served by hand upon the Commission Investigative Attorney, **David O. Lloyd, Esq.**, and the following parties as indicated, on **August 9, 2013**.



Lisa R. Barton, Acting Secretary
U.S. International Trade Commission
500 E Street, SW
Washington, DC 20436

ON BEHALF OF COMPLAINANT APPLE INC.:

Alexander J. Hadjis, Esq.
MORRISON & FOERSTER LLP
2000 Pennsylvania Ave., NW, Suite 6000
Washington, DC 20006

☐ Via Hand Delivery
☒ Via Express Mail
☐ Via First Class Mail
☐ Other:

**ON BEHALF OF RESPONDENTS SAMSUNG
ELECTRONICS CO., LTD., SAMSUNG
ELECTRONICS AMERICA, INC. AND SAMSUNG
TELECOMMUNICATIONS AMERICA, LLC:**

S. Alex Lasher, Esq.
**QUINN EMMANUEL URQUHART
& SULLIVAN, LLP**
1299 Pennsylvania Ave., NW, Suite 825
Washington, DC 20004

☐ Via Hand Delivery
☒ Via Express Mail
☐ Via First Class Mail
☐ Other:

PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of

CERTAIN ELECTRONIC DIGITAL
MEDIA DEVICES AND COMPONENTS
THEREOF

Investigation No. 337-TA-796

COMMISSION OPINION

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PUBLIC VERSION

I. INTRODUCTION

The Commission instituted this investigation on August 5, 2011, based on a complaint filed by Apple Inc. (“Apple”) of Cupertino, California. 76 *Fed. Reg.* 47610 (Aug. 5, 2011). The complaint alleges violations of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain electronic digital media devices and components thereof by reason of infringement of certain claims of U.S. Patent Nos. 7,479,949 (“the ‘949 patent”); RE 41,922 (“the ‘922 patent”); 7,863,533 (“the ‘533 patent”); 7,789,697 (“the ‘697 patent”); 7,912,501 (“the ‘501 patent”); D558,757 (“the D’757 patent”); and D618,678 (“the D’678 patent”). The respondents named in the Commission’s notice of investigation are Samsung Electronics Co., Ltd. of the Republic of Korea (“SEC”); Samsung Electronics America, Inc. of Ridgefield Park, New Jersey (“SEA”); and Samsung Telecommunications America, LLC of Richardson, Texas (“STA”) (collectively “Samsung”). A Commission investigative attorney (“IA”) participated in the investigation.

On October 25, 2012, the presiding administrative law judge (“ALJ”) (Judge Pender) issued a final initial determination (“ID”) in this investigation finding a violation of section 337 in connection with the claim of the D’678 patent; claims 1, 4-6 and 10-20 of the ‘949 patent; claims 29, 30 and 33-35 of the ‘922 patent; and claims 1-4 and 8 of the ‘501 patent. The ALJ found no violation of section 337 in connection with the claim of the D’757 patent; claims 31 and 32 of the ‘922 patent; and claims 13 and 14 of the ‘697 patent. Apple and Samsung filed petitions for review of the final ID.

On January 23, 2013, the Commission determined to review the final ID in its entirety, and remand the investigation to the ALJ with respect to certain issues related to the ‘922 patent

PUBLIC VERSION

and the '501 patent, as set forth in the Remand Order. 78 *Fed. Reg.* 6130 (Jan. 29, 2013). On March 26, 2013, the ALJ issued a remand initial determination ("RID") in this investigation finding claim 3 of the '501 patent is not infringed by the '501 Accused Products represented by the Transform SPH-M920 product, and claims 34 and 35 of the '922 patent are infringed by the text selection feature of the '922 Accused Products. Apple and Samsung filed petitions for review of the RID.

On May 28, 2013, the Commission determined to review the RID in its entirety and solicited written submissions from the parties and the public on several issues. As explained in greater detail below, the Commission has determined that Apple has proven a violation of section 337 based on infringement of claims 1, 4-6, 10, and 17-20 of the '949 patent and claims 1-4 and 8 of the '501 patent, but has not proven a violation with respect to claims 11-16 of the '949 patent and the asserted claims of the D'678, D'757, '922, and '697 patents. The Commission has also determined to issue: (1) a limited exclusion order barring entry of Samsung articles that infringe claims 1, 4-6, 10, and 17-20 of the '949 patent and claims 1-4 and 8 of the '501 patent; and (2) cease and desist orders barring SEA and STA from importing, selling, marketing, advertising, distributing, transferring (except for exportation), and soliciting U.S. agents or distributors for, infringing articles. The Commission has further determined to set a bond of 1.25 percent of the entered value for mobile phones, media players, and tablet computers.

II. BACKGROUND

A. Procedural History

Apple's complaint alleges violations of section 337 in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain

PUBLIC VERSION

electronic digital media devices and components thereof by reason of infringement of claims 1, 3-6, and 9-20 of the '949 patent; claims 29-35 of the '922 patent; claims 1, 4, 7, 9, 11, 12, 15-17, 19, and 20 of the '533 patent; claims 1-3, 11-16, and 21-27 of the '697 patent; claims 1-4 and 8 of the '501 patent; the claim of the D'757 patent; and the claim the D'678 patent.

A Markman hearing was held in this investigation from November 21-22, 2011. On March 6, 2012, the ALJ issued an order construing claim terms (Order No. 16). On May 3, 2012, the ALJ issued an ID partially terminating the investigation with respect to all claims of the '533 patent; claims 1-3, 11, 12, 15, 16 and 21-27 of the '697 patent; and claim 3 of the '949 patent (Order No. 17) (not reviewed by the Commission, May 3, 2012).

On October 24, 2012, the ALJ issued his final ID in this investigation finding a violation of section 337 in connection with the claim of the D'678 patent; claims 1, 4-6 and 10-20 of the '949 patent;¹ claims 29, 30 and 33-35 of the '922 patent; and claims 1-4 and 8 of the '501 patent. The ALJ found no violation of section 337 in connection with the claim of the D'757 patent; claims 31 and 32 of the '922 patent; and claims 13 and 14 of the '697 patent. The ALJ also found that the asserted claims of the Asserted Patents were not shown to be invalid. The ALJ further found that a domestic industry in the United States exists that practices the Asserted Patents, except for the '697 patent. On November 7, 2012, the ALJ issued his recommended determination ("RD") on remedy and bonding.

Apple and Samsung filed timely petitions for review of various portions of the final ID, as well as timely responses to the petitions. The IA filed only a response to the petitions for review. On December 3, 2012, Apple and Samsung filed public interest comments pursuant to Commission rule 210.50(a)(4). That same day, non-party Google filed a submission in response

¹ The final ID did not make findings regarding violation of claim 9 of the '949 patent, and Apple did not petition for review on this issue.

PUBLIC VERSION

to the Notice of Request for Statements on the Public Interest. *See 77 Fed. Reg.* 68829-30 (Nov. 16, 2012).

On January 23, 2013, the Commission determined to review the final ID in its entirety, and remand the investigation to the ALJ with respect to certain issues related to the '922 patent and the '501 patent, as set forth in the Remand Order. *78 Fed. Reg.* 6130 (Jan. 29, 2013). In light of the remand, briefing on the other reviewed issues and on remedy, bonding, and the public interest were postponed until the Commission's consideration of the RID.

On March 26, 2013, the ALJ issued his RID. The RID found that claims 34 and 35 of the '922 patent are infringed by the text-selection feature of the accused products and that claim 3 of the '501 patent is not infringed by the accused products represented by the Transform SPH-M920. On April 9, 2013, Apple and Samsung petitioned for review of the RID. The IA did not petition for review of the RID. On April 17, 2013, Apple, Samsung and the IA filed their respective responses to the petitions for review.

On May 28, 2013, the Commission determined to review the RID in its entirety. In connection with the Commission's review of the final ID and the RID, the parties were invited to brief certain issues. The parties, interested government agencies and the public were invited to provide written submissions on issues related to remedy and the public interest. The Commission received responses from Apple, Samsung, and the IA addressing all of the Commission's questions. In response to the remedy and public interest questions posed to the public, the Commission received responses from thirty commenters: Americans for Job Security; Associated Carrier Group; Capital Policy Analytics; Congresswoman Eva M. Clayton; Congressmen Hakeem S. Jeffries and Henry C. Johnson, Jr.; Congressmen Bill Pascrell, Jr., Hank Johnson, Albio Sires, Dan Maffei, Terri Sewell, and Steve Israel; Congressman Pete

PUBLIC VERSION

Sessions; CTIA – The Wireless Association; Mr. Dennis C. Vacco, Esq.; Digital Liberty and Property Rights Alliance; Google, Inc.; Health IT Now.org; Hispanic Leadership Fund; Homecare Homebase, LLC; Institute for Policy Innovation; James Valley Telecommunications; Texas State Senator Ken Paxton; Texas State Senator Kirk Watson; The LIBRE Initiative; National Black Chamber of Commerce; National Grange of the Order of Patrons of Husbandry (“National Grange”); The Newborn Coalition; Revol Wireless; Senator Robert Menendez; Sprint Spectrum, L.P.; Taxpayers Protection Alliance; Ting Wireless; Congressman Trent Franks; American Agri-Women *et al.*; and United States Cellular Corporation.

B. The Accused Products

The accused products in this investigation are certain Samsung mobile phones, media players, and tablet computers. A list of the accused products for each asserted patent is provided on pages 5-7 of the ID.

C. The Design Around Products

The design around products in this investigation are certain Samsung mobile phones and tablet computers. A list of the design around products for each of the asserted utility patents is provided on pages 11-12 of the ID.

D. The Alleged Domestic Industry Products

With respect to the domestic industry requirement, Apple is relying on the following products:

- o The D'757 patent: iPhone 3G and iPhone 3GS;²
- o The D'678 patent: iPhone, iPhone 3G, iPhone 3GS, iPhone 4 and iPhone 4S;

² Apple alleged that the original iPhone also practices the D'757 patent, but the final ID did not make a finding regarding this and Apple did not petition for review on this issue. Complainant Apple Inc.'s Initial Posthearing Brief ("AIB") at 65-68.

PUBLIC VERSION

- The '922 and '949 patents: iPhone, iPhone 3G, iPhone 3GS, iPhone 4, iPhone 4S, iPad, iPad2, iPod Touch 3G, and iPod Touch 4G running both Apple iOS 3 and iOS 5;
- The '501 patent: iPhone, iPhone 3G, iPhone 3GS, iPhone 4, iPhone 4S, iPad, iPad 2, and iPod Touch; and
- The '697 patent: iPhone 3GS, iPhone 4, iPhone 4S, iPad, iPad 2, and iPod Touch.

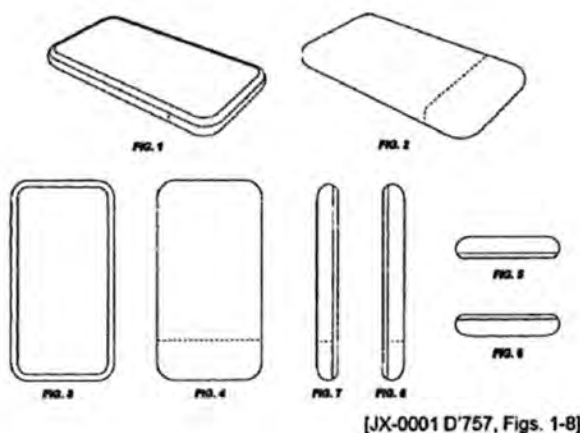
III. ANALYSIS

As stated above, the Commission determined to review the final ID and RID in their entirety. The Commission provides its determination and supporting analysis with respect to the reviewed issues in this investigation herein. Any findings, conclusions, and supporting analysis by the ALJ that are not inconsistent with our analysis and conclusions below are adopted by the Commission.

A. The D'757 Patent

The D'757 patent is one of Apple's two asserted design patents, titled "Electronic Device." The patent has only one claim, which reads as follows:

We claim the ornamental design for an electronic device, substantially as shown and described.



[JX-0001 D'757, Figs. 1-8]

PUBLIC VERSION

The patent disclosure provides that “[t]he features shown in broken lines in the various Figures are for illustrating environmental structure and form no part of the claimed design.” JX-1.

i. Claim Construction and Infringement

The ALJ construed the claim of the D’757 patent to cover the design for an electronic device as depicted in FIGS. 1-8 of the D’757 patent but did not provide a textual construction of the claim of the D’757 patent. ID at 36. The ALJ found that “the patent does not claim a reflective or shiny front face as the drawings depicting the front surface lack oblique line shading.” *Id.* (citing MPEP § 1503.02(II)). The ALJ also found that “the patent covers a front face with a single plane, as the drawings depicting the front face lack dimensional shading, particularly where the front bezel meets the front face.” *Id.* Applying his construction of the patented design, the ALJ determined that the D’757 Accused Products do not infringe the claim of the D’757 patent. *Id.* at 37-75.

We find that the record evidence supports the ALJ’s conclusion that to the eye of the ordinary observer, giving such attention as a purchaser usually gives, and viewing the designs as a whole, the accused products at issue are not substantially the same as the patented design.

Samsung argues that the ALJ applied the wrong legal standard for design patent infringement. Respondents’ Petition for Review of the Initial Determination on Violation of Section 337 (“SPet”) at 9-10. We disagree. The sole test for design patent infringement is articulated by the Supreme Court in *Gorham Co. v. White*:

if, in the eye of an ordinary observer, giving such attention as a purchaser usually gives, two designs are substantially the same, if the resemblance is such as to deceive such an observer, inducing him to purchase one supposing it to be the other, the first one patented is infringed by the other.

81 U.S. 511, 528 (1872); *see Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 678 (Fed. Cir. 2008) (en banc) (holding that the “ordinary observer” test should be the sole test for design

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patent infringement). The ALJ is correct that *Gorham* does not require “an affirmative showing that an ordinary observer would be deceived into thinking the accused design is the patented design.” ID at 39. The ALJ explained that “deceptive similarity” is not a distinct requirement by *Gorham*, rather it is “a consequence, or result, of the designs being substantially the same.” *Id.* We therefore find that the ALJ correctly applied the *Gorham* test for design patent infringement.

Apple argues that the ALJ erred in construing the D’757 patent to exclude a reflective or shiny front face. We find Apple’s argument unpersuasive that the *lack* of oblique lines means that the D’757 design does not “claim” reflective or shiny surface, and therefore the design covers any and all front surfaces. Complainant Apple Inc.’s Petition for Review of the Initial Determination on Violation of Section 337 (“APet”) at 13-14. A design patent’s claim “is limited to what is shown in the application drawings.” *In re Mann*, 861 F.2d 1581, 1582 (Fed. Cir. 1988). The MPEP § 1503.02(II) states that “[o]blique line shading *must be used to show* transparent, translucent and highly polished or reflective surfaces.” Consistent with this requirement, Apple’s expert, Mr. Bressler, testified that the D’757 design does not claim a reflective or shiny front face:

- 25 Q. Thank you, sir. And the D ’757 patent
 1 actually does not claim a transparent,
 2 translucent or highly polished reflective
 3 surface on the front?
 4 A. Of the ’757?
 5 Q. Yes.
 6 A. It does not, correct. It does
 7 describe a flat surface.

Hr’g Tr. at 750:25-751:7.

We also reject Apple’s argument that the ALJ erred in giving undue weight to allegedly minor features found on the back of the accused products, when the front face of the design is more important for the overall visual impression. APet at 16. To the contrary, the ID discusses

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in detail the features that contribute to the overall visual impression, including the front face of the design, as compared to the accused products in light of the prior art. ID at 41-75. Although Apple relies on the testimony of its expert, Mr. Bressler, for this point (*id.* (citing Hr’g Tr. at 2038:7-2039:24)), Mr. Bressler testified that he himself afforded “equal weight to the views [of the compared designs].” Hr’g Tr. at 2039:16-20. The Federal Circuit has made clear that “all of the ornamental features illustrated in the figures must be considered in evaluating design patent infringement.” *Contessa Food Prods., Inc. v. Conagra, Inc.*, 282 F.3d 1370, 1378 (Fed. Cir. 2002) (abrogated on other grounds). Nevertheless, even if the ALJ were to have given the front face more weight, it would not have altered his analysis because the front face features that Mr. Bressler referred to as “domineering” include the “reflection and transparency of the overall rectangular curved cornered front of the device” (Hr’g Tr. at 2050:5-10), which the ALJ correctly found was not even part of the claimed design. ID at 36.

We further reject Apple’s argument that the ALJ erred in his treatment of the prior art in his design infringement analysis. In particular, Apple argues that the ALJ failed to properly analyze the KR 30-0398307 and JP D1250487 references. APet at 16-17. The ALJ used an approach endorsed by the Federal Circuit and Apple in analyzing the prior art. *See* Complainant Apple Inc.’s Response to Respondents’ Petition for Review of the Initial Determination on Violation of Section 337 (“AResp”) at 22 (citing *see Egyptian Goddess*, 543 F.3d at 672; *see also Braun Inc. v. Dynamics Corp. of Am.*, 975 F.2d 815, 820 (Fed. Cir. 1992) (performing three-way comparison)). The ALJ’s infringement analysis for the accused products included reference drawings that showed side-by-side views of the claimed design, the prior art, and the accused product. *See, e.g.*, ID at 51-52, 56-57, 62-63, 67-68, 72-73. The ALJ properly identified the features that demonstrated the distinct overall visual appearance of the accused products and

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provided an identification of the differences between the claimed design and the accused products with reference to the prior art that contributed to the distinct overall visual appearance of the accused products. *Id.*

In addition, the ALJ did not err in finding that the ordinary observer will pay significant attention to the design comparison because the “accused product is relatively expensive and not an ‘impulse purchase.’” *Id.* at 49. While the parties do not cite any controlling case law in support or against the ALJ’s finding in this regard, several district courts have recognized that consumers who are buying expensive products exercise a greater degree of care when doing so and this bears directly on the level of attention or care a smartphone purchaser might give under the ordinary observer test. *See* Respondents’ Response to Apple’s Petition for Review of the Initial Determination on Violation of Section 337 (“SResp”) at 12-13 (citing *Child Craft Indus., Inc. v. Simmons Juvenile Prods. Co.*, 990 F. Supp. 638, 643-44 (S.D. Ind. 1998) (consumers pay more attention to expensive products); *Edge Wireless, LLC v. U.S. Cellular Corp.*, 312 F. Supp. 2d 1325, 1333 (D. Or. 2003) (consumers with expertise or who are buying expensive products or services exercise a greater degree of care when doing so); *M&G Elecs. Sales Corp. v. Sony Kabushiki Kaisha*, 250 F. Supp. 2d 91, 104 (E.D.N.Y. 2003)). The Federal Circuit has likewise indicated that consumers may purchase products impulsively, without differentiating similar designs, if the items are relatively inexpensive, thus lending further support for the ALJ’s finding that the ordinary observer’s level of attention paid to the design may be influenced by the price of a product. *See Braun*, 975 F.2d at 820-21. Apple does not identify a specific error in the ALJ’s infringement analysis as a result of allegedly applying a heightened level of scrutiny by the ordinary observer. *See* APet at 18-22.

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In view of the foregoing, the record evidence supports the ALJ's conclusion that to the eye of the ordinary observer (buying an expensive product thereby exercising a greater degree of care), viewing the designs as a whole, and in light of the crowded nature of the prior art, the accused products at issue are not substantially the same as the D'757 design. The Commission therefore determines to affirm the ALJ's finding that Apple has not proven that the D'757 Accused Products infringe the D'757 patent.

ii. Technical Prong of the Domestic Industry Requirement

We find that the ALJ erred in concluding that an ordinary observer, giving such attention as a purchaser usually gives to the types of products at issue, considering the overall appearance and impression of the iPhone 3G and iPhone 3GS, would find that these domestic industry products are substantially the same design as claimed in the D'757 patent and thus practice the D'757 patent. *Id.* at 88. In particular, we find the ALJ's omission in considering the domestic industry products' opaque, non-reflective front surface in the technical prong of the domestic industry analysis to be clearly erroneous.

The ALJ found that minor differences in the side and rear views are slight and would not demonstrate a significant difference to an ordinary observer. *Id.* at 85-86. The ALJ also found that the different features identified by Samsung "tend to disappear into the background of the front face and do not alter the overall impression." *Id.* at 87. However, the ALJ failed to analyze and properly weigh the fact that the domestic industry products do not share the same opaque, non-reflective front surface as the D'757 design.

By contrast, the ALJ consistently considered the transparent, shiny front face design feature of the D'757 Accused Products as among the features contributing to the overall visual impression supporting his finding that the D'757 Accused Products are not substantially the

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same as the D'757 design. *See, e.g., id.* at 53-54, 59, 64, 69. In addition, the ordinary observer would view the side and back views of the iPhone 3G and 3GS to be substantially different from the side and back views of the patented design. For example, the iPhone 3G and 3GS have a non-flat back surface but the D'757 has a flat back. The iPhone 3G and 3GS also have sides with different curvature than the D'757 design. Taking into account the substantial differences in the front, side and back views of the domestic industry products and the D'757 design, the record evidence supports the conclusion that to the eye of the ordinary observer and viewing the designs as a whole, the iPhone 3G and 3GS are not substantially the same as the D'757 design. *See* CPX-4; CPX-5; Bressler Tr. at 764:8-14 (“My testimony is that the overall impression of the Apple iPhone was created by this large, dark, shiny oily pool, if you will, of a front surface.”), 2037:8-2039:1.

The Commission therefore determines to reverse the ALJ’s conclusion that the iPhone 3G and 3GS practice the D’757 patent.

iii. Obviousness

Samsung argues that the ALJ erred by failing to find the D’757 patent obvious in light of the prior art, including the KR 30-0304213 (“KR prior art”) and JP D1250487 (“JP prior art”) references, which both “show a design with a rectangular form with rounded corners framing the face that is devoid of any detail or ornamentation.” SPet at 37.

We find no error in the ALJ’s findings on validity. We believe the ALJ’s conclusion that the JP prior art could not serve as a primary art reference is supported by the record evidence. *See* CX-2592C at Q106-11. Furthermore, even if the JP prior art can be a primary art reference and can be modified “to be unadorned,” the evidence does not show that the resulting hypothetical design would appear substantially the same as the D’757 design in light of other

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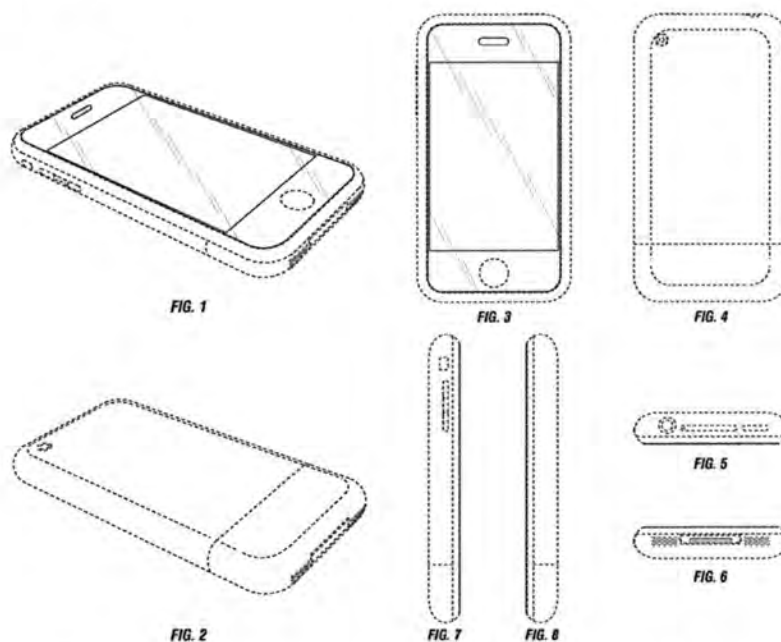
differences. *See id.* at Q109, 111. We also find no error in the ALJ’s exclusion of the KR prior art under his Ground Rules after Samsung did not include the KR prior art in its Notice of Prior Art and Samsung did not proffer the KR prior art as a primary reference in its prehearing brief. *See* Order No. 18 at 5.

Accordingly, the Commission determines to affirm the ALJ’s findings on validity in their entirety.

B. The D’678 Patent

The D’678 patent is the second of Apple’s two asserted design patents, titled “Electronic Device.” The patent has only one claim, which reads as follows:

We claim the ornamental design for an electronic device, substantially as shown and described.



The patent disclosure provides that “[t]he broken lines show portions of the electronic device which form no part of the claimed design.” JX-2.

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i. Claim Construction

The ALJ construed the claim of the D'678 patent to cover the design for an electronic device as depicted in FIGS. 1-8 of the D'678 patent but did not provide a textual construction of the claim of the D'678 patent. ID at 95. The ALJ found that “the patent covers a reflective or shiny front face as the drawings depicting the front surface include oblique line shading.” *Id.* (citing *Apple Inc. v. Samsung Electronics Co., Ltd., LLC*, 678 F.3d 1314, 1331 n. 5 (Fed. Cir. 2012) (“By its use of oblique lines, the D'889 patent indicates that the front surface of the device is reflective and glass-like.”); *see also* MPEP § 1503.02(II)).

Samsung argues that the ALJ erred in construing the D'678 patent “overbroadly to protect generalized concepts and shapes rather than limiting their scope to the patent drawings.” SPet at 16. On the contrary, the ID properly states that the scope of the D'678 patent is limited to the patent drawings. The ID specifically notes that “the drawings of the D'678 patent speak for themselves” and thus it is proper to “construe the claims of the D'678 to cover the design for an electronic device as depicted in FIGS. 1-8 of the D'678 patent.” ID at 95.

Samsung also argues that the ALJ erred in not factoring out allegedly functional elements of the design. While Samsung quotes from experts testifying that a display or speaker slot, for example, are “absolutely functional” or “critically important,” Samsung failed to show that those elements “are dictated solely by function.” SPet at 20; ID at 93-94. Samsung’s reliance on the Federal Circuit’s holding in *Richardson v. Stanley Works, Inc.*, 597 F.3d 1288 (Fed. Cir. 2010) is not persuasive. In *Richardson*, the court found that the “relative configuration” (*i.e.*, size and/or location) of elements such as the handle, the hammerhead, the jaw, and the crowbar of a multi-function tool were dictated by function. *Id.* at 1294.

The jaw, for example, has to be located on the opposite end of the hammer head such that the tool can be used as a step. The crowbar, by definition, needs to be on

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the end of the longer handle such that it can reach into narrow spaces. The handle has to be the longest arm of the tool to allow for maximum leverage. The hammer-head has to be flat on its end to effectively deliver force to the object being struck. As demonstrated by the prior art, those are purely functional elements whose utility has been known and used in the art for well over a century.

Id. Here, the evidence does not support Samsung's argument that the D'678 elements are similarly "purely functional." *Id.*

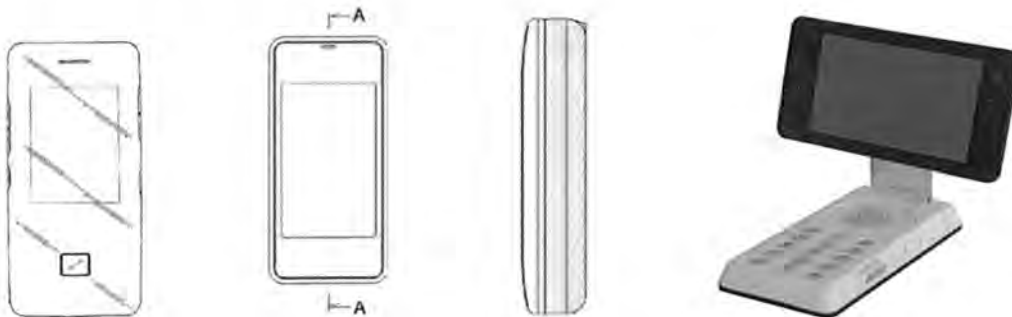
The Federal Circuit has repeatedly cautioned about the dangers of presenting a full textual description of the claimed design but, as the ALJ noted, the Federal Circuit has nevertheless stated that a fact-finder may find it helpful to point out various features of the claimed design in relation to the accused product and the prior art. *Id.* at 91 (citing *Egyptian Goddess, Inc.*, 543 F.3d at 680). In addition, the Federal Circuit described the importance of the background prior art in providing a frame of reference that is useful in the ordinary observer test. *Id.* at 109 (citing *Egyptian Goddess, Inc.*, 543 F.3d at 677). Although we agree with the ALJ's overall interpretation of the D'678 patent claim, we clarify various features of the claimed design and describe the background prior art to provide a frame of reference for the ordinary observer test that will be applied in our analyses below.

The ALJ noted that the D'678 design evinces a symmetric and minimalistic design reflecting the fundamental look of the original iPhone. *Id.* at 110. Specifically, the electronic device claimed in the D'678 patent includes (1) a single, continuous piece of transparent, reflective material that is flat and (2) that extends edge-to-edge across the entire front face of the device. JX-2 at FIGS. 1, 3, and 5-8. The transparent, reflective material is (3) rectangular in overall shape with four evenly radiused corners. *Id.* at FIGS. 1-4. Within this transparent, reflective material is a rectangular element surrounded by (4) nearly imperceptible narrow balanced borders on the sides and (5) wide balanced borders above and below. *Id.* at FIGS. 1 and 3. The claimed electronic device also has (6) an oblong shaped element of a certain width

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and length that is (7) positioned symmetrically both horizontally and vertically in the upper border. *Id.*

The background prior art for the D'678 patent includes U.S. Patent No. D534,516 ("the D'516 patent") (RX-621), Japanese Patent No. D1241638 ("the JP638 patent") (JX-99), and Japanese Patent No. D1204221 ("the JP221 patent") (RX-433). Comparing the above-identified features of the claimed design to the background prior art, we find that none of the prior art devices has a rectangular element surrounded by nearly imperceptible narrow balanced side borders and an oblong element shaped like the claimed design. In particular, the prior art devices have noticeably wider side borders and an oblong shaped element that is longer and/or narrower than the oblong shaped element in the D'678 design. RX-621 at FIG.2; JX-99 at 11 [Front View]; RX-433 at 10. In addition, the JP638 design has a front face that is curved at the edges and an oblong element that is not vertically centered in the top border, but rather the oblong element is asymmetrically positioned nearer to the top edge of the upper border. JX-99 at 11 [Front View], 12 [Right Side View]. The D'516 design has a rectangular element surrounded by a border having a larger bottom than top. RX-621 at FIG. 2. The D'516 design also has additional ornamental features that are vertically and horizontally centered in the lower border. *Id.* at FIGS. 2 and 8.



RX-621 at FIG. 2; JX-99 at 11 [Front View], 12 [Right Side View]; RX-433 at 10.

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The prior art also share a number of similarities with the claimed design such as a flat front face that extends edge-to-edge across the entire front surface of the device (2) and that is rectangular in overall shape with four evenly radiused corners (3). RX-621 at FIG.2; JX-99 at 11 [Front View]; RX-433 at 10. In addition, the JP221 and the JP638 designs have wide balanced borders above and below a rectangular display element (5) like the D'678 design. JX-99 at 11 [Front View]; RX-433 at 10. The JP221 and the D'516 designs also have a symmetrically positioned oblong shaped element in the upper border (7) like the D'678 design. RX-621 at FIG. 2; RX-433 at 10. Finally, we note that the D'516 design has a single, continuous piece of transparent, reflective material on the front face (1) like the D'678 design. RX-621 at FIG. 2.

ii. Infringement

Applying his construction of the patented design, the ALJ determined that all of the D'678 Accused Products, except for the T-Mobile Galaxy S II (SGH-T989), infringe the D'678 patent. ID at 110-39.

Having reviewed the record evidence and compared the D'678 design to the physical exhibits of the D'678 Accused Products in light of the background prior art, we conclude that to the eye of the ordinary observer viewing the designs as a whole, none of the accused designs are substantially the same as the D'678 design. We find substantial differences between the D'678 design and each of the D'678 Accused Products that would be readily noticeable to an ordinary observer familiar with the prior art and that contribute to the dissimilarity between the distinctive overall visual impression of the D'678 design as compared to the distinctive overall visual impression of each of the D'678 Accused Products. The differences common to the D'678 Accused Products that contribute to their distinctive visual appearance include: (A) a rectangular display element framed by a noticeably wider side border and wide top and bottom borders; (B) a

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lozenge element in the top border that has a distinctly different shape; and (C) the lozenge element is asymmetrically positioned in the top border closer to the top edge of the device. Additionally, the D'678 Accused Products include (D) a transparent, reflective material that does not extend edge-to-edge across the entire front face of the device but rather is surrounded by a raised bezel and (E) ornamental features within the lower border, which contribute to the distinct visual appearance of the D'678 Accused Products, but to a lesser extent than (A) through (C).

Apple petitioned for review of the ALJ's finding that the T-Mobile Galaxy S II (CPX-58) does not infringe the D'678 patent based on many of the same reasons set forth above for the D'757 patent. APet at 44-48. Our analysis above for the D'757 patent also applies to the D'678 patent. *See supra* at 7-10. Apple's argument is also unpersuasive because the ALJ found a number of substantial differences between the D'678 design and the T-Mobile Galaxy S II that would be readily noticeable to an ordinary observer familiar with the prior art. ID at 111-12. These differences include the ones that we have identified above that are common to all of the D'678 Accused Products. In addition, the T-Mobile Galaxy S II also has an asymmetrical design with larger corners on the bottom and a curved bottom edge. *Id.* at 112. The Commission further finds that the D'678 design has an oblong shaped lozenge, whereas the T-Mobile Galaxy S II has an asymmetrical trapezoidal shaped lozenge element. Accordingly, the ALJ's finding is supported by the record evidence when comparing the D'678 design with the T-Mobile Galaxy S II and in view of the prior art.

With regard to the other D'678 Accused Products, we find that Apple did not meet its burden of showing, by a preponderance of the evidence, that an ordinary observer familiar with the prior art, would believe the accused product to be the same as the patented design. While the ALJ's focus on "overall impressions" of what is claimed in the patent drawings is precisely the

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type of infringement analysis that the law demands, we find that the ALJ erred in certain factual findings with respect to each of the D'678 Accused Products other than the T-Mobile Galaxy S II and in his conclusions as to the effect of those findings on the appearance of the accused design as a whole viewed in the context of the prior art. *See Revision Military, Inc. v. Balboa Mfg. Co.*, 700 F.3d 524, 526-27 (Fed. Cir. 2012) (finding that the district court stated the correct "overall design" standard, citing *Crocs, Inc. v. Int'l Trade Comm'n*, 598 F.3d 1294, 1303 (Fed. Cir. 2010)).

In addition to the differences common to all of the D'678 Accused Products as compared with the D'678 design, we find that the Showcase, Mesmerize, Fascinate and Focus S have unbalanced borders above and below the rectangular display element. CPX-124, 90, 44, 48; *see also* RDX-37-52-54, 37-58-60. In particular, these accused products have a bottom border that is noticeably larger than the top border. *Id.* In addition, these accused products have a lozenge element that is substantially longer than the oblong shaped element in the patented design. *Id.* Therefore, in the context of the background prior art, we find that an ordinary observer would conclude that the overall visual impressions of the Showcase, Mesmerize, Fascinate and Focus S are not substantially the same as the overall visual impression of the patented design, and thus these accused products do not infringe the D'678 patent claim.

The remaining D'678 Accused Products (*i.e.*, Vibrant (SGH-T959), Galaxy S II Skyrocket, Galaxy S II Epic, Galaxy Player 4, Galaxy S 4G, Galaxy S II (SGH-I777), and Infuse) also have a number of substantial differences with the D'678 design that would be readily noticeable to an ordinary observer familiar with the prior art. CPX-141, 59, 40, 53, 56, 57, 83. In addition to the differences common to all of the D'678 Accused Products as compared with the D'678 design, we find that these accused products have a lozenge element that is

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substantially longer and thinner than the oblong shaped element in the patented design. *Id.*; see also RDX-37-37, 37-40, 37-46, 37-49, 37-55, 37-61. Therefore, we find that an ordinary observer familiar with the background prior art would conclude that the overall visual impressions of the Vibrant (SGH-T959), Galaxy S II Skyrocket, Galaxy S II Epic, Galaxy Player 4, Galaxy S 4G, Galaxy S II (SGH-I777), and Infuse are not substantially the same as the overall visual impression of the patented design, and thus these accused products do not infringe the D'678 patent claim.

Accordingly, we find the record evidence supports the conclusion that to the eye of the ordinary observer (buying an expensive product thereby exercising a greater degree of care), viewing the designs as a whole, and in light of the crowded nature of the prior art, the accused products are not substantially the same as the D'678 design. The Commission therefore affirms with modified reasoning the ALJ's finding that the T-Mobile Galaxy S II does not infringe the D'678 patent. The Commission also determines to reverse the ALJ's finding that the other D'678 Accused Products infringe the D'678 patent.

iii. Technical Prong of the Domestic Industry Requirement

The ALJ concluded that every iPhone – original, 3G, 3GS, 4 and 4S – practices the D'678 patent in light of the prior art and that his overall impression was that the iPhone products are substantially the same as D'678 patent. ID at 153. The ALJ found that minor differences in border width, for example, would not demonstrate a significant difference to an ordinary observer. *Id.* at 154.

Having reviewed the record evidence and compared the D'678 design to the physical exhibits of the iPhones in light of the background prior art, we conclude that to the eye of the ordinary observer viewing the designs as a whole, the iPhone original, 4 and 4S are substantially

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the same as the D'678 design. CPX-3, 6 and 7. The iPhone original, 4 and 4S share many similarities with the claimed design such as a flat, transparent front face (1) that extends edge-to-edge across the entire front surface of the device (2) and that is rectangular in overall shape with four evenly radiused corners (3). *Id.* Within the transparent front face is a rectangular element surrounded by very narrow balanced borders on the sides (4) and wide balanced borders above and below (5). *Id.* The iPhone original, 4 and 4S also has an oblong element that is shaped (6) and positioned (7) identical to the oblong element in the D'678 design. *Id.*

In contrast, we find substantial differences between the D'678 design and the iPhone 3G and 3GS that would be readily noticeable to an ordinary observer familiar with the prior art and that contribute to the dissimilarity between the distinct overall visual impression of the D'678 design and the distinct overall visual impression of the iPhone 3G and 3GS. *See* CPX-4 and 5. These differences include a rectangular display element surrounded by noticeably wider borders on the side as compared to the D'678 design and a flat, transparent front face that does not extend edge-to-edge across the entire front surface of the device, but rather is surrounded by a raised bezel edge. *Id.* We find that the effect of these differences on the overall appearance of the iPhone 3G and 3GS as a whole is that an ordinary observer familiar with the prior art would not believe the iPhone 3G and 3GS to be the same as the patented design.

In view of the foregoing, the Commission affirms the ALJ's finding that the original iPhone, iPhone 4 and iPhone 4S practice the D'678 patent claim, but reverses the ALJ's finding that the iPhone 3G and iPhone 3GS practice the D'678 patent claim.

iv. Obviousness

Before prior art designs can be combined, there must be evidence of a single reference that has "design characteristics of which are basically the same as the claimed design." *Durling*

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v. Spectrum Furniture Co., 101 F.3d 100, 103 (Fed. Cir. 1996). Samsung argues that the Japanese Design Patent JP D1241638 (“JP638”) (JX-99) and the LG Chocolate (RPX-89) qualify as primary references. ID at 139-40, 143-44.

In light of the record evidence, we find that the ALJ did not err in finding no primary reference in this case. Among other differences, the JP638 reference has an arched and convex front face whereas the D’678 design has a flat face. *Id.* at 142-43; *compare* JX-99 with JX-2. The Federal Circuit in *Apple Inc. v. Samsung Electronics Co., Ltd., LLC* distinguished the “arched” and “convex” front face of the JP638 design from the “flat front” of a design of a mobile device by Apple depicted in U.S. Patent No. D593,087 (“the D’087 patent”) and rejected the lower court’s decision that the JP638 patent likely anticipates the D’087 design. 678 F.3d at 1326. The ALJ found that Samsung presented no evidence that the LG Chocolate is prior art. ID at 144. Even if the LG Chocolate constitutes a primary reference, the ALJ found that major modifications would be needed to alter the LG Chocolate to give it substantially similar impression to the patented design. *Id.* at 145. Specifically, the ALJ noted that the LG Chocolate has a “prominent button feature on the front face, off-center display screen, and rounded top and bottom edges, among other elements.” *Id.* Therefore, we agree with the ALJ that Samsung has failed to set forth a *prima facie* case of obviousness.

For the foregoing reasons, the Commission determines to affirm the ALJ’s finding that Samsung has identified no combination of references that would render the D’678 patent obvious.

v. Alleged Prejudicial Procedural Errors

Samsung argues that the ALJ committed three procedural errors that severely prejudiced it. First, Samsung argues that the ALJ erred in denying its Motion for Leave to File an Amended

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Notice of Prior Art. SPet at 38. We find that the ALJ was within his discretion to deny Samsung's Motion for Leave to File an Amended Notice of Prior Art. While Samsung's Motion argues that amending the Notice would not prejudice Apple, the ALJ's Ground Rules state that "lack of prejudice does not equate to good cause." We agree with the ALJ that Samsung did not show good cause to amend the Notice of Prior Art to add 61 new references more than four months after the deadline for submitting its Notice of Prior Art. *See* AResp at 89.

Second, Samsung argues that the ALJ improperly excluded evidence of the Nokia Fingerprint design and related testimony. SPet at 40. The ALJ excluded the testimony regarding the Nokia Fingerprint design because it was essentially directed to a device that Samsung sought to add to its Notice of Prior Art via its motion to amend. *See* Response of the Office of Unfair Import Investigations to the Private Parties' Petitions for Review of the Initial Determination on Violation ("IARes") at 30-31. We find that the ALJ was within his discretion to deny the motion and exclude the testimony regarding the Nokia Fingerprint design. *See id.* at 30.

Third, Samsung argues that the ALJ erred in refusing to admit relevant non-asserted Apple patents because the patents have no "sponsoring witness." SPet at 42. The ALJ noted that the non-asserted Apple patents that Samsung sought to be admitted were filed *after* the filing date of the asserted patents and that he was not required to take judicial notice of the patents under *Egyptian Goddess*. *See* Hr'g Tr. at 2324:6-18. Samsung has not shown that the ALJ abused his discretion in refusing to admit the non-asserted Apple patents.

Accordingly, the Commission determines to affirm the ALJ's procedural determinations in their entirety.

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C. The '922 Patent

The '922 patent is one of Apple's two asserted user interface software patents, titled "Method and Apparatus for Providing Translucent Images on a Computer Display." The patent is directed to methods for displaying images on a display screen of an electronic device or performing image operations in an electronic device. Each claim of the '922 patent requires the use of a translucent image and a base image, where the translucent image overlaps at least a portion of the base image. *See* ID at 230.

Apple argues that the '922 Accused Products infringe claims 29-35 of the '922 patent.

Id. at 6, 233. The asserted independent claims read as follows:

29. A method for displaying images on a display screen of an electronic device, comprising the steps of:

displaying a base image on a display screen of the electronic device; and

displaying a translucent image on said screen such that portions of said base image which are covered by said translucent image are at least partially visible through said translucent image, wherein said translucent image and said base image are selectably active to receive user input and the base image remains at least partially covered by said translucent image even when selected.

31. A method of performing image operations in an electronic device, including the steps of:

presenting a first selected image with respect to which image operations are desired,

producing a translucent image effective for overlapping at least a portion of said first selected image, wherein said translucent image contains at least one feature of interest, and

conducting an image operation on said first selected image using said feature of interest while the translucent image overlaps at least a portion of the first selected image.

33. A method for displaying images on a display screen of an electronic device, comprising the steps of:

displaying a base image on a display screen of said electronic device;

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displaying a translucent image on said screen such that portions of said base image which are covered by said translucent image are at least partially visible through said translucent image; and

receiving input in said displayed base image while said base image remains at least partially covered by said translucent image.

i. Claim Construction

a. “feature of interest” (claims 31 and 32)

Claims 31 and 32 of the '922 patent require a “translucent image [that] contains at least one feature of interest” and “conducting an image operation on said first selected image using said feature of interest.” Apple alleges that the ALJ erred in his construction of “feature of interest” to exclude control elements such as the zoom button used in the Gallery application in the '922 Accused Products. *Id.* at 241.

In the final ID, the ALJ noted that he and the parties all agree that the limitation “feature of interest” should be given its plain and ordinary meaning. *Id.* at 238. Because “feature of interest” is not used in the specification (other than claim 31), the ALJ relied on portions of the specification describing an “image of interest” as graphical content that is used as a reference or basis for conducting an image operation in guiding his construction of “feature of interest.” *Id.* at 239-40. The ALJ also relied on the fact that during prosecution of application claim 90 (a previous version of the ’922 patent claim 31), the applicant stated that the claimed invention “requires that image operations are conducted with respect to the first selected image *based upon* features of interest in the translucent overlaid window.” *Id.* at 241 (citing JX-10 at 765 (emphasis added)). For at least these reasons, the ALJ interpreted “feature of interest” to mean “a feature on which the user is interested in conducting an image operation.” *Id.* at 241.

In its May 28, 2013 notice of review, the Commission asked the parties to address the following:

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7. Does the intrinsic evidence mandate a narrow construction of the “feature of interest” limitation in claims 31 and 32 of the ’922 patent that excludes control elements in the translucent image? What impact, if any, do the additions in the specification made by reissue have on the construction of the claims added during reissue? In particular, please comment on the applicability of the embodiment disclosing a translucent keyboard to the construction of the “feature of interest” limitation. *See* JX-0004 at 3:12-22 and FIGS. 19-21c. What evidence in the record, if any, supports construing control characters or functional buttons on a keyboard as a “feature of interest” in the context of the ’922 patent?

In response to the Commission’s notice, Samsung argues that the specification’s description of image operations using “image of interest” and “features” of an “image of interest” provides the best (and only) guidance for interpreting “feature of interest.” Samsung’s Initial Submission in Response to the Commission’s May 28, 2013 Notice and Request for Written Submissions (“SInitSub”) at 57-58; *see* RX-3636C at Q611-19. In particular, Samsung asserts that the specification consistently uses “image of interest” in the same narrow context, *i.e.*, graphical content that is used as a reference or basis for conducting an image operation. SInitSub at 57. Samsung contends that Apple relies only on expert testimony and attorney argument that conflicts with the intrinsic evidence to support its broad interpretation of “feature of interest.” Samsung’s Reply Submission in Response to the Commission’s May 28, 2013 Notice and Request for Written Submissions (“SReplySub”) at 39-40, 42. Samsung also argues that the additions in the specification of the ’922 patent made by reissue, and in particular the translucent keyboard embodiment, are irrelevant to the construction of “feature of interest” because nothing in the disclosure or file history suggests that this embodiment is intended to be an embodiment of claim 31. SInitSub at 57. Rather, Samsung contends that the translucent keyboard embodiment is covered by claims 29 and 33. SReplySub at 41.

The IA concurs with Samsung that the intrinsic evidence mandates a construction of “feature of interest” that excludes control elements in the translucent image. Brief of the Office of Unfair Import Investigations on the Issues Under Review and on Remedy, Bonding, and

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Public Interest (“IAInitSub”) at 14-15. Otherwise, the IA argues that claims 31 and 32 are invalid under 35 U.S.C. § 112 ¶ 1 as the specification does not provide written description for such an interpretation. *Id.* at 16.

Apple argues that its expert testified that the plain and ordinary meaning of “feature of interest” is “simply a feature that is interesting to the user.” Complainant Apple Inc.’s Submission in Response to the Commission’s Request for Briefing on Certain Issues Under Review (“AInitSub”) at 25 (quoting CX-2428C at Q200). Apple asserts that nothing in the intrinsic record limits “feature of interest” to graphical content that is used as a reference or basis for conducting an image operation. Complainant Apple Inc.’s Reply Submission in Response to the Commission’s Request for Briefing on Certain Issues Under Review (“AReplySub”) at 33. Rather, Apple argues that “images of interest” are a limited subset of the larger class of “features of interest.” *Id.* at 35. Apple points out that Samsung’s own expert agreed during his deposition that the backspace key and the arrow keys in the translucent keyboard are features of interest. AInitSub at 27 (citing CX-2442 at 181:19-185:14). Apple also argues that construing “feature of interest” so as to exclude control elements would eliminate a preferred embodiment (the translucent keyboard) of the ’922 patent. *Id.* at 26.

Our interpretation of “feature of interest” must be consistent with the way the term is used in the ’922 patent. See *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (*en banc*), *aff’d*, 517 U.S. 370 (1996) (“Claims must be read in view of the specification, of which they are a part.”); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1321 (Fed. Cir. 2005) (“Properly viewed, the ‘ordinary meaning’ of a claim term is its meaning to the ordinary artisan after reading the entire patent.”). While acknowledging that “feature of interest” appears nowhere in the ’922 patent specification, Apple’s argument has little basis in the intrinsic

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evidence to support its broad interpretation of the term. Apple argues that the specification's uses of the terms "features" and "image of interest" does not limit the meaning of "feature of interest," nor does the prosecution history's description of graphical content as examples of "feature of interest" limit the scope of that term. *See* AReplySub at 34, 36-37. We find Apple's interpretation of "feature of interest" and its view of the intrinsic evidence unpersuasive as explained below.

"Feature of interest" appears nowhere in the '922 patent specification. However, the specification uses the terms "feature" and "interest." For example, the disclosure states that "[b]oth translucent and opaque image fields can be employed, which can each be completely blank without any features or elements." JX-4 at 3:3-5. Furthermore, in connection with the embodiments shown in Figs. 3d and 3e, the disclosure states that, "if instead of circle 68, a complex image of a photograph of a house were displayed in opaque window 62, . . . a translucent overlay window could be suitably positioned thereover, permitting the user to make a sketch of selected features of the house on the overlying translucent window." *Id.* at 10:59-65. Based on the specification's description of "features" of an image, we agree with the ALJ that the related term "image of interest" provides substantial guidance for interpreting "feature of interest." *ID* at 239; RX-3636C at Q611-614; JX-4 at 9:1-11:44 & FIGS. 3a-3g. For instance, in one embodiment, the specification discloses an opaque window containing an image of a circle, labeled 68, which represents "an arbitrary image of interest to the user." JX-4 at 9:6-9 & FIG. 3a. In another embodiment, the "image of interest" is presented in an overlying translucent window containing an image of a circle, labeled 75. *Id.* at 11:25-29 & FIG. 3g. Taking into consideration the specification's uses of the terms "features" and "images of interest," we find that an ordinary artisan after reading the '922 patent specification as a whole would interpret

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“features of interest” as features of an image “on which the user is interested in conducting an image operation.” ID at 241.

We also find the prosecution history for the '922 patent to be especially helpful in discerning the proper meaning and scope of the term “feature of interest” because the term appeared in several claims during reissue. By way of background, the '922 patent is a broadening reissue of U.S. Patent No. 6,072,489 (“the '489 patent”), which is directed to systems and methods for conducting image operations. “Feature of interest” does not appear in the '489 patent disclosure other than in dependent claims 24 and 25. JX-78 at 41 (21:1-8). When the reissue application corresponding to the '922 patent was filed, claims 24 and 25 of the '489 patent were changed from their dependent forms to independent forms including all of the limitations of the claims from which they depend. JX-10 at 25, 70-71. In addition, many other claims were added to the reissue application, including claims 29-31 and 86-90, all of which recite “feature of interest.” *Id.* at 71, 78-79. Claims 86-90 of the reissue application corresponding to the '922 patent read as follows:³

86. A method of performing image operations in an electronic device, including the steps of:

presenting a first selected image with respect to which image operations are desired, and

producing a translucent image effective for overlapping at least a portion of said first selected image,

wherein said first selected image contains features of interest, and image operations are conducted on said translucent image with respect to said features of interest.

87. A method as recited in claim 86 wherein said image operations provide a copy of said features of interest on said translucent image.

³ Claim 90 of the reissue application corresponds to claim 31 of the '922 patent and claims 24, 25 and 29-31 of the reissue application recite nearly identical limitations as claims 86-90 of the reissue application. JX-10 at 71, 78-79.

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88. A method as recited in claim 86 wherein said image operations provide a feature of interest on said translucent image aligned with said first selected image features of interest.

89. A method as recited in claim 86 wherein said image operations provide a feature of interest on said translucent image similarly shaped to said first selected image features of interest.

90. A method of performing image operations in an electronic device, including the steps of:

presenting a first selected image with respect to which image operations are desired, and

producing a translucent image effective for overlapping at least a portion of said first selected image,

wherein said translucent image contains features of interest, and image operations are conducted with respect to said first selected image based upon said features of interest.

Id. at 78-79.

All of the embodiments in the '489 patent refer to graphical content that is used as a reference or basis for conducting an image operation. For instance, during the reissue of the '922 patent, the applicant stated that support for claim 90 "is found throughout the specification, for example, at 8:58-9:10, 10:61-11:20, and 19:3-30 among other locations."⁴ *Id.* at 767, 900. The '489 patent specification at 8:58-9:10 describes the embodiment shown in FIG. 3c. FIG. 3c illustrates a display screen 60 with the pair of overlapping windows 62 and 70. JX-78 at 34 (8:58-59). The overlapping window 70 is translucent while the window 62 is opaque. *Id.* (8:60-61). Opaque window 62 has the image of circle 68 displayed within the overlapping region of the two windows 62, 70. *Id.* (8:61-63). Image operations, such as copying or tracing, can be conducted in translucent window 70 with reference to the image of circle 68 in window 62. *Id.*

⁴ The '489 patent specification at 10:61-11:20 describes the embodiment shown in Fig. 3i. The portion of the '489 patent specification at 19:3-30 discloses that the image operations enabled by the concurrent interoperability of the base window and the translucent window can be implemented by user selected inputs at any number of screen operational levels.

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(8:65-9:10). In addition to the embodiment shown in FIG. 3c, all other embodiments in the '489 patent also refer to graphical content that is used as a reference or basis for conducting an image operation. Therefore, we find that the prosecution history for the '922 patent supports interpreting "feature of interest" to be graphical content that is used as a reference or basis for conducting an image operation.

The '489 and the '922 patents are continuation-in-parts of Application No. 08/060,572 ("the '572 application"), which issued as U.S. Patent No. 5,638,501. In addition to the claims that were added during reissue, the applicant added an additional embodiment copied from the '572 application. This additional embodiment provided a translucent overlay keyboard over a base image (*e.g.*, webpage having an input text box) on the screen of a computer system. RX-3060 at 14:31-50; 15:12-30. The terms "feature of interest," "image operation," and "image of interest," however, are not found in the '572 application. The final ID did not opine on the significance, if any, of the translucent keyboard embodiment added during reissue on the construction of "feature of interest." However, we note that even though the reissue application was amended to include the translucent keyboard embodiment, the applicant did not cite that part of the disclosure for support of application claim 90 or any other claim that recites "feature of interest." In fact, the only embodiment that the applicant relies on during reissue for support of application claim 90 is Fig. 3c and other portions of the '489 patent specification. Based on the applicant's arguments during reissue, we find that Apple's broad construction of "feature of interest" to include control elements improperly seeks to expand the scope of the '922 patent to claim matter that was not disclosed in the '489 patent and the '572 application.

We do not give any weight to the conflicting expert testimony in the record. Without citing any intrinsic evidence or reasoning, Apple’s expert explains that a “[feature of interest]

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can be a visual element that the user wishes to copy, as shown in figures 3a – 3e of the '922 patent, or a functional button on a keyboard, as shown in figure 21 of the '922 patent.” CX-2428C at Q200. Samsung’s expert also makes a conclusory statement when he agrees during his deposition that the backspace key and the arrow keys in the translucent keyboard are features of interest. CX-2442 at 181:19-185:14.

In view of the language of the claims, the '922 patent specification, and the '922 patent prosecution history, we find that a person of ordinary skill in the art at the time of the invention would construe “feature of interest” to mean “a feature on which the user is interested in conducting an image operation,” as defined by the ALJ. Accordingly, the Commission affirms, with our additional analysis above, the ALJ’s construction of the term “feature of interest.”

ii. Indirect Infringement

The Commission has interpreted the word “infringe” in section 337 to authorize finding violations with respect to articles that indirectly infringe an asserted patent. *See* 19 U.S.C. § 1337(a)(1)(B); *Certain Electronic Devices With Image Processing Systems, Components Thereof, and Associated Software*, Inv. No. 337-TA-724, Comm’n Op. at 18 (Dec. 1, 2011) (“*Electronic Devices With Image Processing Systems*”). The statutorily defined theories of indirect infringement under 35 U.S.C. § 271(b) and (c) include active inducement of infringement and contributory infringement, both of which were asserted by Apple. *Id.*

a. Evidence of Direct Infringement

To prove indirect infringement of the asserted claims, Apple must show that the method claims have been directly infringed by a third party user of the accused product. *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1326 (Fed. Cir. 2004); *Mirror Worlds, LLC v. Apple, Inc.*, 692 F.3d 1351, 1360-61 (Fed. Cir. 2012) (finding no induced infringement because

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there is no evidence of actual use of each claimed limitation by a customer). Direct infringement may be proven by either direct or circumstantial evidence. *Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1272 (Fed. Cir. 1986).

The ALJ found that the '922 Accused Products infringe claims 29, 30 and 33-35, but not claims 31 and 32, through use of the zoom icon feature in the Gallery application and the text selection feature in the Browser application. ID at 233-43, 255-61; RID at 10-11. The ALJ also found that the '922 Accused Products do not infringe claims 31 and 33-35 through use of the crop feature in the Gallery application. ID at 243-255. The Commission affirms the ALJ's findings on direct infringement by Samsung, but as the ALJ stated in the ID, claims 29, 30 and 33-35 are method claims and as such Samsung's direct infringement cannot form the basis of a violation of section 337 because the infringement (*i.e.*, the practicing of the method claims) did not occur at the time of importation. *Id.* at 233 (citing *see Electronic Devices With Image Processing Systems*, 337-TA-724, Comm'n Op. at 13-14 ("We also interpret the phrase 'articles that – infringe' to reference the status of the articles at the time of importation. Thus, infringement, direct or indirect, must be based on the articles as imported to satisfy the requirements of section 337.")). As explained below, the Commission finds that the ALJ erred in concluding that Apple has proven that at least one end user of the '922 Accused Products has performed each of claims 29, 30, and 33-35 of the '922 patent.

Apple argues that the end users of the '922 Accused Products directly infringe the asserted claims when they use the Browser and Gallery applications on the '922 Accused Products to zoom on an image, crop an image, or perform text selection. *Id.* at 262. Apple asserts that three features of the '922 Accused Products independently infringe the method claims 29-35 of the '922 patent. The first is the zoom icon feature in the Gallery application.

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The second is the crop feature in the Gallery application. The third is the text selection feature in the Browser application.

The ALJ found that the likelihood that at least one end user has performed each of claims 29, 30, and 33-35 at least once is overwhelming in light of evidence of: (1) the large numbers of the '922 Accused Products sold by Samsung (*id.* at 265 (citing CDX-183C and CDX-184C

(2) user manuals that instruct end users how to use the Gallery and Browser applications that are included in the '922 Accused Products (*id.* at 263-64 (citing CX-2428C at Q344; CX-348 at S-ITC-000046647 (zoom); CX-411 at 57 (crop), 41 (text selection); CX-336-53; CX-356-59; CX-361-62; CX-375-400; CX-416-31)); (3) demonstrations that show zooming in the Gallery application of a Galaxy S phone (*id.* at 264 (citing CX-277 at 1:10-15)); and (4) customer support staff directly instructs end users how to use the Gallery and Browser applications (*id.* (citing CX-2557C at 71:15-75:9, 93:16-99:24, 192:13-195:9)).

In its May 28, 2013 notice of review, the Commission asked the parties to address the following:

4. Please discuss and cite the evidence of record, if any, that shows a third party performed each and every step of asserted claims 29-35 of the '922 patent.

In response to the Commission's notice, Samsung argues that as a matter of law, "where the accused products have noninfringing uses, mere evidence of extensive sales and user manuals is insufficient circumstantial evidence to prove an underlying act of direct infringement by a third party." SInitSub at 27 (citing *Mirror Worlds*, 692 F.3d at 1360-61; *E-Pass Techs., Inc. v. 3Com Corp.*, 473 F.3d 1213, 1222-23 (Fed. Cir. 2007)) (emphasis not shown). Samsung argues that products with noninfringing uses require direct evidence of infringement by third parties. *Id.* at 28-32. Samsung also argues that its user manuals at most "teach 'customers each step of the

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claimed method in isolation,’ but not ‘all the steps of the claimed method together.’” *Id.* at 27 (citing *Mirror Worlds*, 692 F.3d at 1360 (quoting *E-Pass*, 473 F.3d at 1222)). With respect to the zoom icon feature, Samsung argues that the manual for the Samsung Fascinate (CX-348 at 85), for example, does not describe a feature of interest, does not indicate that the base image is selectably active or can receive user input, and does not teach a user how to interact with a base image, as required by claims 31-35. *Id.* at 33; see RX-3636C at Q689. For the text selection feature, Samsung argues that the manual (CX-411 at 42) discloses how to select text for editing but the instructions are not specific to the Brower application. SInitSub at 34. Furthermore, Samsung argues that the Brower application, which must be launched in order to generate a base image, is taught in an entirely different section of the manual (CX-411 at 47). *Id.* Samsung asserts that Apple’s initial submission newly cites to user manuals never cited before in Apple’s post-hearing brief and petition. SReplySub at 26, 27, 28. Samsung further argues that the demonstrations in Youtube video clips are promotional tools and not instructions directing users in how to use the accused products. *Id.* at 35 (citing RX-3636C at Q690). Samsung contends that the evidence relating to its customer support shows, at most, that customers *could* call customer support for guidance on how to edit photos using the Gallery application. *Id.* (citing CX-2557C at 71:15-75:9).

Apple argues that the evidence shows that Samsung sells millions of infringing units to customers in the United States, and that each of these units includes at least one feature which can be used to infringe the ’922 patent. AInitSub at 12 (citing CDX-183C; CDX-184C; CX-2428C at Q181). Apple asserts that Samsung provides manuals that instruct users on how to use the infringing features. *Id.* at 12-13 (citing CX-2428C at Q344; CX-336-353; CX-356-59; CX-361-62; CX-375-400; CX-416-31). For example, Apple claims that the user manual for the

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Fascinate SCH-I500 instructs users to launch the Gallery application and teaches that, to zoom on a picture, users can touch the zoom icons on the translucent overlay. *Id.* at 13 (citing CX-348 at 85 (“Touch the zoom icons to zoom incrementally.”)). As another example, Apple claims that the user manual for the Galaxy Tab 10.1 instructs users on selecting text using the Browser. *Id.* at 19 (citing CX-385 at 61 (“Touch and drag the cursors to highlight the text you want to select.”)).

The IA concurs with the ALJ that Samsung’s instructions to end users and the overwhelming number of products sold, proves by a preponderance of the evidence that at least one person in the United States has performed the claimed methods of the ’922 patent.

IAInitSub at 12-13.

“In order to prove direct infringement, a patentee must either point to specific instances of direct infringement or show that the accused device necessarily infringes the patent in suit.” *Acco Brands, Inc. v. ABA Locks Mfrs. Co., Ltd.*, 501 F.3d 1307, 1313 (Fed. Cir. 2007). It is undisputed that Apple did not offer any evidence of specific instances of direct infringement by third parties. While Apple’s expert, Dr. Balakrishnan, testified about the attributes and capabilities of portions of software in the Browser and Gallery applications, he did not testify that he or anyone else performed all of the steps in the asserted method claims.

The Federal Circuit has found circumstantial evidence sufficient to prove direct infringement when the evidence shows that the accused products were intended to be used only to practice the infringing method and that method was explicitly taught, for example, by product manuals. *See E-Pass*, 473 F.3d at 1222; *Moleculon Research*, 793 F.2d at 1272 (inferring direct infringement because a method for solving a Rubik’s Cube-like puzzle was the only intended use for the accused products); *Toshiba Corp. v. Imation Corp.*, 681 F.3d 1358, 1364-65 (Fed. Cir.

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2012) (inferring direct infringement even though the accused product had substantial noninfringing use because manuals recommended users to use the infringing feature and taught away from the noninfringing use). On the other hand, the Federal Circuit recently held that even though direct infringement may be proven by circumstantial evidence, “excerpts from user manuals as evidence of underlying direct infringement by third parties of products that can be used in a noninfringing manner are by themselves insufficient to show the predicate acts necessary for inducement of infringement.” *Mirror Worlds*, 692 F.3d at 1360-62. The Commission has inferred direct infringement when “the Accused Products do not have substantial, non-infringing use and cannot be used in any other manner except in a manner claimed in the asserted claims.” *Certain Semiconductor Chips Having Synchronous Dynamic Random Access Memory Controllers and Products Containing Same*, Inv. No. 337-TA-661, ID at 43 (Jan. 22, 2010) (adopted by the Commission).

Having reviewed the record evidence and the parties' arguments, we conclude that Apple has failed to show that the '922 Accused Products *necessarily* infringe the asserted method claims because there is no dispute that the Browser and Gallery applications have substantial noninfringing uses, and the circumstantial evidence that Apple relies on, at most, show that certain '922 Accused Products are *capable* of being used to infringe the asserted method claims. ID at 271 (citing RX-3636C at Q701; *see also* CX-0348). For example, Apple claims that the user manual for the accused Fascinate SCH-I500 smartphone teaches that to zoom on a picture, users can touch the zoom icons on the translucent overlay. AInitSub at 13 (citing CX-348 at 85 ("Touch the zoom icons to zoom incrementally.")). Besides touching the zoom icons, however, users can also double-tap on the picture to zoom in or out. CX-348 at 85. In addition, the Gallery application can be used in other noninfringing ways such as to view, capture, and

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manage pictures and videos. *Id.* at 90. Apple also claims that the user manual for the Galaxy Tab 10.1 instructs users on selecting text using the Browser. AInitSub at 19 (citing CX-385 at 61 (“Touch and drag the cursors to highlight the text you want to select.”)). Instead of dragging the cursor to highlight the text, users can also “[t]ouch **Select all** in the Application bar to select all text in the field.” CX-385 at 61. In addition, the Browser application can be used in other noninfringing ways such as to navigate web pages, entering text, and copying and pasting text. *Id.* at 70. When the circumstantial evidence shows only that the products are capable of infringing, it does not provide sufficient evidence of direct infringement. *See Fujitsu Ltd. v. Netgear Inc.*, 620 F.3d 1321, 1329 (Fed. Cir. 2010) (affirming summary judgment of no indirect infringement because “the manuals and expert testing only show that the products are capable of infringing, they do not provide evidence of direct infringement”); *E-Pass*, 473 F.3d at 1222-23 (finding no direct infringement because the accused products were “general-purpose computing devices that can be used for a variety of purposes and in a variety of ways.”).

Apple’s expert testimony fails to show that end users of the ‘922 Accused Products necessarily infringe the asserted method claims when they use the Browser and Gallery applications. Dr. Balakrishnan testified as follows:

There is evidence that Samsung instructs end users [to] use the relevant functions of the accused Samsung products. Samsung provides user manuals for the Accused Products that contain instructions for using the “Gallery” applications; which can be used to practice claims 29–35. For example, the user manual for the Fascinate SCH-I500 instructs users on viewing pictures using Gallery. (*See* CX0348 at S-ITC-000046647.) The user manual states that, to increase or decrease the size of a picture, users can “[t]ouch the zoom icons to zoom incrementally.” (*Id.*) In addition, Samsung publicly demonstrates use of the Accused Products to infringe claims 11–20 of the ‘949 patent, including by posting demonstration videos to Samsung Mobile’s YouTube channel, <http://www.youtube.com/user/SAMSUNGmobile>. For example, translucent images can be seen in a video entitled “[GALAXY S II] Official Live Demo – Viewing” how the Galaxy Tab can practice the methods of claims 29–35. (*See*

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CX0280, at 2:09–2:13, 4:00–4:18, and 4:57–5:05; *see also* CX0277, at 1:11–1:15; CX0282, at, at 1:42–2:04.)

Samsung also directly instructs its customers on how to use the infringing functions of these products. *See* Travis Merrill Dep. at 71:15–75:9, 93:16–99:24, 192:13–195:9.

CX-2428C at Q344. He also testified that Samsung employees directly infringed the asserted claims and described portions of the software code for the Browser and Gallery applications that allegedly perform the claimed method steps. *Id.* at Q177–340, 343. As in *Mirror World*, 692 F.3d at 1360, Dr. Balakrishnan, testified about the attributes and capabilities of the accused products, but he did not testify that anyone other than Samsung performed all of the steps in the asserted method claims. *See* CX-2428C at Q182–220, 343–344. Even if the '922 Accused Products include the Browser application or the Gallery application, it does not mean that the zoom icon feature or the text selection feature were used to practice the claims. If it was inconceivable that the accused features were not practiced by Samsung's customers, Apple should have had no difficulty in meeting its burden of proof and in introducing testimony of such use. *See Mirror Worlds, LLC v. Apple, Inc.*, 784 F. Supp. 2d 703, 715 (E.D. Tex. 2011), *aff'd* 692 F.3d 1351 (Fed. Cir. 2012).

Furthermore, the user manuals cited by Apple in its post-hearing brief do not show that all of the claimed steps are taught together, rather than in isolation or at all. AIB at 156–57; *see Mirror Worlds*, 692 F.3d at 1360. For example, with respect to the zoom icon feature, the manual for the Samsung Fascinate does not teach together with other steps that the base image is selectably active or can otherwise receive user input, and does not teach a user how to interact with a base image, as required by the asserted claims. SInitSub at 33 (citing CX-348 at 85, 90). Apple points to the section of the manual that instructs users on how to use the Gallery application (CX-348 at 85) to disclose all of the limitations of claim 29, but admits that it is the

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accused products' swipe feature that demonstrates that the base image is selectively active while the translucent image overlaps it. *See* ID at 234. The swipe feature, however, is taught in another section of the user manual. CX-348 at 24. With respect to the text selection feature, the user manual, CX-411, relied on by Apple was not admitted into the record of this investigation as a trial exhibit. The other manuals relied on by Apple to show the text selection feature are cited for the first time in Apple's response to the Commission's notice. SReplySub at 28. These newly cited manuals do not instruct users to interact with the base image while it is overlapped by translucent highlighting as required by the asserted claims. *Id.* (citing CX-336 at 71; CX-339 at 173; CX-344 at 198; CX-385 at 61, 70).

In sum, we find that Apple has not provided a legally sufficient evidentiary basis to support its burden of showing that an end user practices each and every step of the claimed methods by using the Browser and Gallery applications. We, therefore, reverse the ALJ's finding that Apple has proven by a preponderance of the evidence that at least one end user has performed each of claims 29, 30, and 33-35 of the '922 patent.

b. Contributory Infringement

Section 271(c) of the Patent Act governs contributory infringement, and states:

Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination, or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

35 U.S.C. § 271(c) (2011).

When determining contributory infringement in the context of a Section 337 investigation, the Federal Circuit has explained: "[T]o prevail on contributory infringement in a Section 337 case, the complainant must show *inter alia*: (1) there is an act of direct infringement

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in violation of Section 337; (2) the accused device has no substantial non-infringing uses; and (3) the accused infringer imported, sold for importation, or sold after importation within the United States, the accused components that contributed to another's direct infringement.” *Spansion, Inc. v. Int’l Trade Comm’n*, 629 F.3d 1331, 1353 (Fed. Cir. 2010).

In addition to the foregoing factors, the Supreme Court has explained that the patentee must also demonstrate that the alleged infringer knew “that the combination for which his component was especially designed was both patented and infringing.” *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2067 (2011). Such knowledge will be presumed when the alleged infringer makes and sells articles which are adapted to be used only in a patented combination. *See Spansion*, 629 F.3d at 1355 (citing *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 545 U.S. 913, 932 (2005)).

The ALJ found an underlying act of direct infringement in violation of Section 337, but ultimately found that Apple did not prove that Samsung contributorily infringes claims 29-35 of the ’922 patent because Apple failed to show that the relevant “material or apparatus,” *i.e.*, the Browser application and the Gallery application, has no substantial noninfringing use. ID at 271. The ALJ rejected Apple’s argument that the relevant “material or apparatus” must be limited to the “portions of source code” in the Browser and Gallery applications that control the zoom, crop and text selection functions because the claims require more than just control of those functions. *Id.* The ALJ discounted Apple’s expert testimony on this issue, finding it is “entirely conclusory and fails to explain in any detail how in fact the source code relied upon is adapted for use in an infringement of the ’922 patent or why such source code does not have any substantial non-infringing use.” *Id.*

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As discussed above, the Commission reverses the ALJ’s finding that Apple has proven an underlying act of direct infringement in violation of Section 337. Apple’s failure to prove direct infringement by any third party user of the ’922 Accused Products necessarily means that Apple also fails to prove its allegations of indirect infringement. Though the Commission need not reach the other factors necessary to show contributory infringement, we do so for the sake of completeness.

In its May 28, 2013 notice of review, the Commission asked the parties to address the following:

2. Is the “material or apparatus” used in practicing the patented methods asserted in the ’922 patent that is relevant to a substantial noninfringing use analysis the “combination of source code and hardware elements relied upon by Dr. Balakrishnan in his witness statement,” as argued by Apple (Apple Pet. at 50-51)? To the extent that it is, what evidence in the record shows that the “combination of source code and hardware elements” is adapted for use in an infringement of the ’922 patent and that it does not have any substantial noninfringing use?
3. Please comment on the requirement, if any, that the “material or apparatus” relevant to a substantial noninfringing use analysis must be “separate and distinct” from all other functions of a larger product in view of *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301 (Fed. Cir. 2009); *i4i Ltd. P’ship v. Microsoft Corp.*, 598 F.3d 831 (Fed. Cir. 2010); *Fujitsu Ltd. v. Netgear Inc.*, 620 F.3d 1321 (Fed. Cir. 2010); and any other pertinent legal authorities. To the extent there is such a requirement, what evidence in the record shows that each “combination of source code and hardware elements relied upon by Dr. Balakrishnan in his witness statement” with respect to the ’949 and the ’922 patents is a “separate and distinct” feature of the Browser or Gallery application that warrants treating it separately in analyzing contributory infringement.

In response to the Commission’s notice, Apple argues that the ALJ erred in focusing his substantial noninfringing use analysis on the entire software product, *i.e.*, the Browser and Gallery applications, rather than the accused features of those applications. AInitSub at 6. Apple claims that each of the zoom, crop and text selection features is implemented by portions of software compiled which are executed by a combination of hardware elements on a touch screen device. *Id.* at 7, 12. Apple’s expert, Dr. Balakrishnan,

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testified that the portions of software code implementing these features have no noninfringing use, *Id.* at 7 (citing CX-2428C at Q345). Apple claims that Samsung has not rebutted this evidence. *Id.*

Samsung argues that Apple improperly identifies the relevant “material or apparatus” as a “combination” of elements that is not “separate and distinct” from other non-accused features within the Browser and Gallery applications. SInitSub at 14. Samsung asserts that Apple identifies source code that performs more than just the accused functions as part of the relevant “material or apparatus” but, in arguing that the “material or apparatus” has no noninfringing uses, Apple narrowly focuses only on the accused functions and disregards all noninfringing uses. SReplySub at 10, 12-13. Even if the Commission adopts Apple’s identification of portions of source code as the relevant “material or apparatus,” Samsung argues that the evidence shows this source code has substantial noninfringing uses. SInitSub at 17. Samsung also argues that the ALJ correctly found Dr. Balakrishnan’s testimony regarding substantial noninfringing uses “entirely conclusory.” *Id.* (citing ID at 271).

The IA concurs with Samsung that the “material or apparatus” identified by Apple is not separate and distinct. IAINitSub at 8. The IA points out that Dr. Balakrishnan acknowledged that

Id. (citing CX-2428C at Q183). Additionally, the IA notes that Dr. Balakrishnan acknowledged that “the patented features” are “present *in* the . . . photo [G]allery application.” *Id.* (citing CX-2428C at Q347). Further, when explaining the alleged infringing functionality, the IA notes that Dr. Balakrishnan repeatedly refers to the “Gallery program” itself. *Id.* (citing, *e.g.*, CX-2428C at Q185).

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To establish contributory infringement, Apple bears the burden to prove, *inter alia*, that a component that is a material part of the invention lacks substantial noninfringing use. *Fujitsu*, 620 F.3d at 1326; *Toshiba Corp.*, 681 F.3d at 1363. Federal Circuit precedent holds that the relevant material or apparatus in the context of software is a separate and distinct feature that can be part of a larger product. *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1320-21 (Fed. Cir. 2009) (noting that the “date-picker” tool was a separate and distinct feature of the Outlook software). More recently, in *i4i Ltd.*, the court held that it must only consider the “particular tool” in question, *i.e.*, the XML Editor, when that tool is “a separate and distinct feature” of a larger product, *i.e.*, Microsoft Outlook. 598 F.3d at 849; *see also Fujitsu*, 620 F.3d at 1331 (“[T]he fragmentation functions of the Accused Products in this case are ‘separate and distinct’ features and we must treat them separately in analyzing contributory infringement.”).

At the outset, we note that Apple is not challenging the fact that the ALJ found that the Browser and Gallery applications have substantial noninfringing uses. *See* APet at 48-52. Nor is Apple challenging Samsung’s contention that the Browser and Gallery applications are separate and distinct components of the ’922 Accused Products. Rather, Apple disputes the ALJ’s focus on the Browser and Gallery applications as a whole as the relevant “material or apparatus” in his contributory infringement inquiry instead of just the accused features in those applications. *Id.*

Apple relies entirely on the testimony of its expert, Dr. Balakrishnan, who testified, without explanation, that “[t]he source code discussed above, which Samsung has represented is used in its accused products, has no purpose other than to practice this method, and therefore has no substantial non-infringing use.” CX-2428C at Q345. We agree with the ALJ that this statement is conclusory. Unlike the expert in *i4i*, Dr. Balakrishnan never addresses whether the portions of source code implementing the accused features is a separate and distinct feature. *See*

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AlnitSub at 10 (stating that the “*i4i* court noted that patent owner’s expert testified that the patented feature was a ‘separate and distinct feature.’”).

The Commission finds that the record evidence does not support Apple’s argument that the portions of source code identified by Dr. Balakrishnan is “separate and distinct” from the Gallery and Browser applications. *See Vita-Mix Corp. v. Basic Holding, Inc.*, 581 F.3d 1317, 1328 (Fed. Cir. 2009) (holding that the patentee could not claim that the stir stick alone was a separate and distinct feature from other noninfringing features that depended on components integral to use of the stir stick). Specifically, the portions of source code relied on by Dr. Balakrishnan with respect to his ’922 patent infringement analysis include, *inter alia*

(*id.* at Q275, 287, 300, 311, 323, 326). These portions of the source code, however, are used in many features of the Browser and Gallery not accused by Apple of infringement and are integral to the accused products. For example,

See CX-2428 at Q188. With regard to the Browser application, Apple identifies the source code for displaying any text on web pages, regardless of whether the accused text selection feature is used. Moreover, Apple cannot rely on source code especially made or adapted for use in an infringement as identified by Dr. Balakrishnan, but ignore this same source code for its substantial noninfringing use analysis. *See* AReplySub at 10; SReplySub at 12-13.

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Based on the record evidence, the Commission finds that the Browser and Gallery applications are “separate and distinct” components of the ’922 Accused Products like the “date-picker tool” used in Microsoft Outlook in *Lucent*, the “add-on” XML editor used in Microsoft Word in *i4i*, and the fragmentation software used for the wireless networking products in *Fujitsu*. See CX-2428C at Q182-91, 234-45, 268-79, 295-315, 331-40, 347. Therefore, the Browser and Gallery applications are the relevant materials or apparatuses in a substantial noninfringing use analysis for the ’922 patent claims. Accordingly, the Commission affirms with modified reasoning the ALJ’s finding that Samsung does not contribute to the infringement of the asserted claims of the ’922 patent.

c. Induced Infringement

Section 271(b) of the Patent Act states: “[w]hoever actively induces infringement of a patent shall be liable as an infringer.” 35 U.S.C. § 271(b) (2011). The Supreme Court clarified that active inducement requires the “taking of affirmative steps to bring about the desired result,” and “knowledge that the induced acts constitute patent infringement.” *Global-Tech*, 131 S. Ct. at 2065, 2068. As the Federal Circuit explained:

To establish liability under section 271(b), a patent holder must prove that once the defendants knew of the patent, they “actively and knowingly aid[ed] and abett[ed] another’s direct infringement.” However, “knowledge of the acts alleged to constitute infringement” is not enough. The “mere knowledge of possible infringement by others does not amount to inducement; specific intent and action to induce infringement must be proven.”

DSU Med. Corp. v. JMS Co., 471 F.3d 1293, 1305 (Fed. Cir. 2006) (en banc in relevant part)

(citations omitted). The Court reiterated its position on this point when it stated:

In *DSU Med. Corp. v. JMS Co.*, this court clarified en banc that the specific intent necessary to induce infringement “requires more than just intent to cause the acts that produce direct infringement. Beyond that threshold knowledge, the inducer must have an affirmative intent to cause direct infringement.”

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Kyocera Wireless Corp. v. Int'l Trade Comm'n, 545 F.3d 1340, 1354 (Fed. Cir. 2008) (citation omitted). The required specific intent may be proven through circumstantial evidence.

Broadcom Corp. v. Qualcomm Inc., 543 F.3d 683, 699 (Fed. Cir. 2008).

The ALJ found that Samsung induced infringement of the method claims 29, 30 and 33-35 of the '922 patent. ID at 267-69. In addition to finding that Apple had proven that the claims are directly infringed by the end users of the '922 Accused Products using circumstantial evidence, *id.* at 263-65, the ALJ also found that Samsung had knowledge of the '922 patent and Apple's general allegation of infringement regarding same, or at the latest by August 2011 when the Complaint was filed in this investigation. *Id.* at 267-68. The ALJ further found that Samsung, despite having been on notice of the '922 patent, continued to manufacture, import and sell the '922 Accused Products. *Id.* at 268. In addition, the ALJ found that the Gallery application is designed in such a manner that it cannot be fully used for its intended purpose without infringing the asserted claims of the '922 patent. *Id.* Based on these findings, the ALJ concluded that Samsung designs, manufactures, imports and sells the '922 Accused Products with the specific intent to induce infringement of claims 29, 30 and 33-35 of the '922 patent. *Id.* at 269.

As discussed above, the Commission reverses the ALJ's finding that Apple has proven an underlying act of direct infringement in violation of Section 337. Since direct infringement is a prerequisite to a finding of induced infringement, the Commission determines that Apple has failed to prove by a preponderance of the evidence that Samsung is liable for induced infringement of the asserted claims. Though the Commission need not reach the other elements of induced infringement, we do so for the sake of completeness.

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In its May 28, 2013 notice of review, the Commission asked the parties to address the following:

5. Please discuss and cite the evidence of record, if any, that shows Samsung actively and knowingly aided and abetted another's direct infringement of claims 29-35 of the '922 patent.

In response to the Commission's notice, Apple argues that Samsung had actual knowledge of the '489 patent that reissued as the '922 patent, and of Apple's contention that Samsung's products infringed that patent, as of August 2010. AInitSub at 22; CX-406C at 15. After obtaining this knowledge, Apple contends that Samsung continued to provide to customers user manuals that explicitly instructed its customers to practice the claimed methods. *Id.* Apple notes that Samsung has admitted that it continues to import these products during this investigation. *Id.*

Samsung asserts that it did not have knowledge of the reissued '922 patent and Apple's infringement contentions until the filing of the complaint because the '922 patent issued on November 9, 2010 with seven new claims. SInitSub at 38. Samsung argues that the Commission rejected as evidence of intent the mere fact that Samsung continued to manufacture, import and sell Accused Products after having notice of the asserted patent and receiving claim charts showing alleged infringement. *Id.* at 37-38; *Certain Mobile Devices, Associated Software, and Components Thereof*, Inv. No. 337-TA-744, Comm'n Op. at 16-19 (June 5, 2012) ("*Mobile Devices*"). Samsung also argues that there is no evidence that it lacked a reasonable belief that the asserted '922 patent claims were invalid and not infringed. SInitSub at 39.

The IA concurs with the ALJ that the user manuals are sufficient to allow Apple to meet its burden of establishing that Samsung actively induced infringement of the asserted '922 patent claims by end users. IASub at 13-14.

Apple argues that notice of the '489 patent should have been sufficient to provide notice of the '922 patent because the reissued claims of the '922 patent are nearly identical to the '489

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claims. AReplySub at 22-23. On the contrary, a comparison of the claims shows that the '922 patent claims 29, 31 and 34 all include at least one limitation not found in the allegedly corresponding '489 patent claims 16, 25 and 11. For example, unlike claim 16 of the '489 patent, claim 29 of the '922 patent requires that "the base image remains at least partially covered by said translucent image even when selected." Compare JX-78 at 40 (20:29-31) with JX-4 at 26:52-53. Accordingly, we find that [redacted] did not provide Samsung with notice of the '922 patent and Apple's infringement contentions with regard to the claims of the '922 patent. Rather, Samsung obtained knowledge of the '922 patent and Apple's infringement contentions as of July 2011, the date of Apple's complaint in this investigation.

The following paragraph from the ID captures the entire basis for the ALJ's finding of active inducement:

As discussed in detail, *supra*, Samsung provides manuals that instruct end users of the '922 Accused Products to use, *inter alia*, the Browser and Gallery applications in a manner that infringes claims 29, 30, and 33-35 of the ['922] patent. Additionally, as previously discussed, Samsung publically demonstrates in an infringing manner the use of the '922 Accused Products and provides direct instruction through its support IA to end users on how to use the infringing Browser and Gallery applications. Thus, I find Samsung's actions induced the infringing acts of the end users of the '922 Accused Products.

ID at 267.

Even though Samsung continued to offer the accused products for sale after filing of the complaint, the record evidence and, in particular, the user manuals, is insufficient for Apple to meet its burden to prove the requisite specific intent and action to induce infringement by Samsung. *DSU Med. Corp.*, 471 F.3d at 1305 (The "mere knowledge of possible infringement by others does not amount to inducement; specific intent and action to induce infringement must be proven"). The user manuals, for example, do not disclose all of the claimed method steps

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together or at all as discussed above in connection with the underlying direct infringement requirement. *See supra* at 39-40. Neither do the user manuals show that Samsung had the specific intent and action to induce infringement.⁵

Apple's evidence is similar to the evidence presented in *Mobile Devices*. In that investigation, the Commission affirmed the ALJ's finding that Microsoft had failed to demonstrate that Motorola induced infringement of an asserted patent even after Motorola had been served with Microsoft's allegations of infringement because Motorola may still lack the requisite intent to induce infringement based upon a reasonable belief that the asserted patent was either not infringed or was invalid. Comm'n Op. at 19. Like Microsoft in *Mobile Devices*, Apple failed to demonstrate that Samsung lacked a reasonable belief that the '922 patent was not infringed or was invalid. *Id.*; see *Commil*, 2013 WL 3185535, at *5 (holding that "a good-faith belief of non-infringement is relevant evidence that tends to show that an accused inducer lacks the intent required to be held liable for induced infringement.").

Apple distinguishes *Mobile Devices* by asserting "but in that case the Commission did not address whether user manuals or other evidence of instructions to infringe could show intent

⁵ Apple seems to rely on only user manuals as evidence that Samsung actively induced another's direct infringement. AReplySub at 25. We therefore do not give any weight to the other evidence in the record, *i.e.*, public demonstrations on Youtube videos and Samsung customer support. We note that the ID states that "the evidence shows that SEA [Samsung customer support center] directly instructs end users on how to use these products, including the use of the infringing Gallery and Browser applications, through its customer support staff." ID at 264 (citing CX-2557C (Merrill Dep.) at 71:15-75:9, 93:16-99:24, 192:13-195:9). On the contrary, we find the testimony cited by the ALJ to be largely speculative and, at most, shows that Samsung teaches its customer support staff general use of the accused products. Since the Browser and Gallery applications have substantial noninfringing uses, it cannot be inferred from the testimony that Samsung encouraged customers how to practice the method claims. Furthermore, the cited videos are irrelevant because, as Samsung's expert explains, the videos do not demonstrate the accused products being used to perform the claimed methods, let alone encourage end users to use the accused products in an infringing manner. *See* RX-3636C at Q392, 691, 693; RDX-43C at 46-52.

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to induce.” AResp at 47. On the contrary, the Commission in *Mobile Devices* noted Microsoft’s argument before the ALJ in support of its assertion that Motorola had requisite knowledge sufficient to establish induced infringement as follows:

. . . . Here, the end users of MMI’s devices directly infringe the asserted method claims through the routine use of these products. MMI encourages such use by making available manuals instructing users to use the products in an infringement [sic] manner . . . MMI had notice of the asserted patents and Microsoft’s infringement theories at least as early as the service of Microsoft’s Complaint in this Investigation, yet it continues to import and offer the accused products for sale, and continues to make available manuals that instruct users to use the accused product in an infringing manner.

Comm’n Op. at 17. The Commission also rejected Microsoft’s argument that “[b]ecause MMI had indisputable actual knowledge of the ’566 patent and the operation of the Android system, inducement liability should have been a foregone conclusion.” *Id.* at 18. Likewise, we find that Apple failed to make the required showing of an affirmative intent to cause direct infringement. *See id.* (citing *Warner-Lambert Co. v. Apotex Corp.*, 316 F.3d 1348, 1363 (Fed. Cir. 2003)).

Apple misconstrues *Certain Inkjet Ink Cartridges with Printheads and Components Thereof*, Inv. No. 337-TA-723 (“*Inkjet Ink Cartridges*”) when it asserts that the Commission in that investigation reversed the ALJ’s finding of no intent to induce because the respondent “continued to sell its components to Microjet even after” it was served with the complaint and infringement contentions in the investigation. AResp at 46-47. The *Inkjet Ink Cartridges* investigation presented a unique set of facts in which the Commission found that prior to obtaining actual knowledge of the asserted patent, the respondent, APM, willfully blinded itself to the asserted patent and to the infringing conduct, and that even after obtaining actual knowledge of the asserted patent through the filing of the complaint in the investigation, APM continued to induce infringement of the patent by continuing to manufacture integrated chips (“ICs”) for incorporation into MicroJet’s accused products for importation into the United States.

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Comm'n Op. at 15 (Oct. 24, 2011). Apple omits that the Commission found that prior to the filing of the complaint, communications between APM and MicroJet reveal that "APM understood that HP had patents covering this technology, that its ICs are incorporated into MicroJet ink cartridges that were accused of infringing HP's patents, and that the cartridges are imported for sale in the United States." *Id.* at 17. Apple has presented no such pre-complaint evidence in this investigation to show that Samsung willfully blinded itself to the '922 patent and to the alleged infringing conduct.

Apple also omits that the Commission found that "the record evidence establishes that the ICs do not have substantial non-infringing uses." *Id.* at 19. The Commission stated that "[i]n such instances, the Federal Circuit has indicated that the manufacture and sale of the contributorily infringing component may constitute the purposeful, culpable act sufficient to establish inducement." *Id.* (citing *Ricoh Co., Ltd. v. Quanta Computer Inc.*, 550 F.3d 1325, 1343 (Fed. Cir. 2008)). Such is not the case in this investigation where we agree with the ALJ's finding that the Browser and Gallery applications have substantial noninfringing uses.

The ALJ's conclusion that the evidence shows that the Gallery application in the '922 Accused Products is designed in such a manner that they cannot be fully used for their intended purposes without infringing the asserted method claims of the '922 patent is contrary to his conclusion that the Gallery application has substantial noninfringing uses. *ID* at 268. Even if the manuals did entirely disclose the claimed steps, merely describing the infringing steps to show that the Browser and Gallery applications are capable of infringing does not establish that Samsung aided or abetted any end user to practice the claimed steps where, as here, the evidence establishes that these applications have substantial noninfringing uses. *See Mirror Worlds*, 692 F.3d at 1360-61; *see also Toshiba Corp.*, 681 F.3d at 1365; *Vita-Mix Corp.*, 581 F.3d at 1329

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(“Especially where a product has substantial non-infringing uses, intent to induce infringement cannot be inferred even when the defendant has actual knowledge that some users of its product may be infringing the patent.”) (quoting *Warner-Lambert Co. v. Apotex Corp.*, 316 F.3d 1348, 1365 (Fed. Cir. 2003)).

In view of the foregoing, the Commission determines that the ALJ incorrectly determined that Apple proved that Samsung induces infringement of claims 29, 30 and 33-35 of the ’922 patent. The Commission therefore reverses the ALJ’s finding of induced infringement of the asserted ’922 patent claims by Samsung.

D. The ’949 Patent

The ’949 patent is the second of Apple’s two asserted user interface software patents, titled “Touch Screen Device, Method, and Graphical User Interface for Determining Commands by Applying Heuristics.” The patent is directed to a computing device that translates imprecise user gestures into precise, intended commands. JX-3 at 2:20-30. The disclosed embodiments detect finger contacts on a touch screen display and applies “heuristics” to determine the appropriate command to execute based on a gesture from the finger contacts. The commands can be a one-dimensional vertical screen scrolling command, a two-dimensional screen translation command or a command to transition from displaying an item in a set of items to displaying a next item in the set of items.

Apple asserts that the ’949 Accused Products infringe claims 1, 4-6 and 10-20 of the ’949 patent. Representative independent claims 1 and 11 are reproduced below:

1. A computing device, comprising:
a touch screen display;
one or more processors;
memory; and

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one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors, the one or more programs including:

instructions for detecting one or more finger contacts with the touch screen display;

instructions for applying one or more heuristics to the one or more finger contacts to determine a command for the device; and

instructions for processing the command;

wherein the one or more heuristics comprise:

a vertical screen scrolling heuristic for determining that the one or more finger contacts correspond to a one-dimensional vertical screen scrolling command rather than a two-dimensional screen translation command based on an angle of initial movement of a finger contact with respect to the touch screen display;

a two-dimensional screen translation heuristic for determining that the one or more finger contacts correspond to the two-dimensional screen translation command rather than the one-dimensional vertical screen scrolling command based on the angle of initial movement of the finger contact with respect to the touch screen display; and

a next item heuristic for determining that the one or more finger contacts correspond to a command to transition from displaying a respective item in a set of items to displaying a next item in the set of items.

11. A computer-implemented method, comprising:

at a computing device with a touch screen display,

detecting one or more finger contacts with the touch screen display;

applying one or more heuristics to the one or more finger contacts to determine a command for the device; and

processing the command;

wherein the one or more heuristics comprise:

a vertical screen scrolling heuristic for determining that the one or more finger contacts correspond to a one-dimensional vertical screen scrolling command rather than a two-dimensional screen translation command based on an angle of initial movement of a finger contact with respect to the touch screen display;

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a two-dimensional screen translation heuristic for determining that the one or more finger contacts correspond to the two-dimensional screen translation command rather than the one-dimensional vertical screen scrolling command based on the angle of initial movement of the finger contact with respect to the touch screen display; and

a next item heuristic for determining that the one or more finger contacts correspond to a command to transition from displaying a respective item in a set of items to displaying a next item in the set of items.

i. Claim Construction and Direct Infringement

The ALJ found that the '949 Accused Products directly infringe claims 1, 4-6 and 10-20. ID at 167-181. With respect to method claims 11-16, however, the ALJ found that Samsung's direct infringement cannot form the basis of a violation because the infringement did not occur at the time of importation. *Id.* at 180.

Samsung petitioned for review of the ALJ's interpretation of the claim term "heuristics." SPet at 64. Samsung also petitioned for review of the ALJ's finding that the '949 Accused Products meet the "based on an angle of initial movement" limitation. *Id.* at 58-64.

Because we discern no error in the ALJ's claim constructions and his analysis on direct infringement with respect to claims 1, 4-6, 10 and 17-20 of the '949 patent, the Commission affirms the ALJ's findings in these respects. ID at 161-181. Accordingly, all of the '949 Accused Products running Android versions 2.2, 2.3, 3.x and 4.0 identified on page 5 of the ID are found to infringe claims 1, 4-6, 10 and 17-20 of the '949 patent.

ii. Indirect Infringement

a. Evidence of Direct Infringement

The Commission affirms the ALJ's findings on direct infringement of method claims 11-16 by Samsung, but as the ALJ stated in the ID, claims 11-16 are method claims and as such Samsung's direct infringement cannot form the basis of a violation of section 337 because the infringement (*i.e.*, the practicing of the method claims) did not occur at the time of importation.

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ID at 179-81. As explained below, the Commission finds that the ALJ erred in concluding that Apple has proven that at least one end user of the '949 Accused Products has performed each of claims 11-16 of the '949 patent.

The ALJ found that the likelihood that at least one end user of the Browser and Gallery applications in the '949 Accused Products has performed each of method claims 11-16 at least once is overwhelming based on similar types of circumstantial evidence that he relied on with respect to the '922 patent. *See supra* at 33-34. In particular, the ALJ relied on: (1) the large numbers of the '949 Accused Products sold by Samsung (*id.* at 184 (citing CDX-183C and CDX-184C

(2) user manuals that teach end users the gestures that allegedly invoke the claimed heuristics using the Gallery and Browser applications that are included in the '949 Accused Products (*id.* at 183 (citing CX-2428C at Q160; CX-341 at 167 (navigate website with Browser), 126 (view photos using Gallery)); *see also* CX-336-53; CX-356-62; CX-375-400; CX-416-31)); (3) demonstrations that allegedly show use of the '949 Accused Products in an infringing manner (*id.* at 184 (citing CX-281 at 6:57-7:06; *see also* CX-277 at 0:33-38)); and (4) customer support staff directly instructs end users how to use the Gallery and Browser applications (*id.* (citing CX-2557C at 71:15-75:9; CX-280 at 2:10, 4:00, and 5:00)).

The parties were not asked to brief this issue in the May 28, 2013 notice of review. Samsung's petition for review before the Commission argues that the ALJ erroneously concluded that end users of the '949 Accused Products directly infringe claims 11-16 based on the same flawed legal analysis and the same types of insufficient evidence relied upon with respect to the '922 patent." SResp at 65.

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The IA concurs with the ALJ's finding that Apple has proven by a preponderance of the evidence that at least one person in the United States has performed claims 11-16 of the '949 patent for the same reasons he found the '922 patent infringed. IARes at 38.

As with the '922 patent, it is undisputed that Apple did not offer any evidence of specific instances of direct infringement of claims 11-16 of the '949 patent by third party users of the '949 Accused Products.

Having reviewed the record evidence and the parties' arguments, we conclude that Apple has failed to show that the '949 Accused Products *necessarily* infringe claims 11-16 because there is no dispute that the Browser and Gallery applications have substantial noninfringing uses, and the circumstantial evidence that Apple relies on, at most, shows that certain '949 Accused Products are *capable* of being used to infringe the asserted method claims. ID at 191. For example, Apple claims that the user manual for the Sidekick 4G SGH-T839 instructs users on viewing pictures with the Gallery application by "[t]ouch[ing] and drag[g]ing a picture to the left to see the next picture or to the right to see the previous picture." *Id.* at 183 (citing CX-341 at 126). Alternatively, users can also tap Slideshow to display every image in the selected folder. CX-341 at 126. In addition, the Gallery application can be used in other noninfringing ways such as to capture and manage pictures and videos. *Id.* at 126-131. Apple also claims that the user manual for the Sidekick 4G SGH-T839 instructs users on navigating with the Browser by "sweep[ing] the screen with your finger in an up or down motion." ID at 183 (citing CX-341 at 167). Alternatively, users can set the Auto-fit pages option to allow "web pages to be resized to fit as much of the screen as possible." CX-341 at 170. In addition, the Browser application can be used in other noninfringing ways to navigate between web pages, and to enter and copy/paste text. *Id.* at 167. When the circumstantial evidence shows only that the products are capable of

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infringing, it does not provide sufficient evidence of direct infringement. *See supra* at 38 (citing *Fujitsu*, 620 F.3d at 1329; *E-Pass*, 473 F.3d at 1222-23).

As with the '922 patent, Apple's expert testimony fails to show that end users of the '949 Accused Products *necessarily* infringe the asserted method claims when they use the Browser and Gallery applications. Dr. Balakrishnan testified as follows:

There is evidence that end users use the relevant functions of the accused Samsung '949 Accused Products. Samsung has provided manuals that instruct users of Samsung '949 Accused Products to use these functions. For example, the user manual for the Sidekick 4G SGH-T839 instructs users on "[n]avigating with the Browser," stating, "To scroll through a website, sweep the screen with your finger in an up or down motion," (*see* CX0341 at S-ITC-000012789) and on viewing pictures using Gallery, stating, "Touch and drag a picture to the left to see the next picture or to the right to see the previous picture" (*id.* at S-ITC-000012838).

In addition, Samsung publicly demonstrates use of the Accused Products to infringe claims 11–20 of the '949 patent, including by posting demonstration videos to Samsung Mobile's YouTube channel, <http://www.youtube.com/user/SAMSUNGmobile>. For example, a video entitled "[GALAXY Tab] Official Live Demo – HD," demonstrates how the Galaxy Tab can practice the inventions of claims 11–20. (*See* CX0281 at 5:07–5:38, 6:57–7:06; *see also* CX0277 at 0:33–38, 1:28–1:35; CX0280, at 2:10, 4:00, and 5:00).

CX-2428C at Q160. He also testified that Samsung employees directly infringed the asserted claims and described portions of the software code for the Browser and Gallery applications that perform the claimed method steps. *Id.* at Q136-147, 159. However, Dr. Balakrishnan did not testify that anyone other than Samsung performed all of the steps in the asserted method claims. *See* CX-2428C at Q87-156, 159. Even if the '949 Accused Products include the Browser application or the Gallery application, it does not mean that the gestures implementing the claimed heuristics were used to practice the claims.

Furthermore, the user manuals cited by Apple instruct users on the general usage of the '949 Accused Products, but do not instruct users on every claimed step. For example, Apple fails to show where in the manuals are the instructions teaching users the steps of "detecting one

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or more finger contacts with the touch screen display,” “applying one or more heuristics to the one or more finger contacts to determine a command for the device”; and “processing the command,” as required by the asserted method claims. In addition, Apple has not shown that the user manuals instruct users on how to scroll using a “two dimensional screen translation.” RX-3636C at Q566-67. Samsung’s expert, Dr. Van Dam, explains that claim 11 is not practiced by a user swiping the screen because the user manual does not mention any type of scrolling aside from a one-dimensional vertical scroll and it does not explain how a user can perform a one-dimensional vertical scroll instead of a two-dimensional scroll. *Id.* at Q566.

In sum, we find that Apple has not provided legally sufficient evidentiary basis to support its burden of showing that an end user practices each and every step of claims 11-16 by using the Browser and Gallery applications. We, therefore, reverse the ALJ’s finding that Apple has proven by a preponderance of the evidence that at least one end user has performed each of claims 11-16 of the ’949 patent.

b. Contributory Infringement

The ALJ found an underlying act of direct infringement in violation of Section 337, but ultimately found that Apple did not prove that Samsung contributorily infringes claims 11-16 of the ’949 patent for substantially the same reasons as those supporting his finding concerning the ’922 patent. *ID* at 189-91. In particular, the ALJ rejected Apple’s argument that the relevant “material or apparatus” must be limited to the “portions of source code” in the Browser and Gallery applications that control the scrolling and translation operations because the claims require more than just control of scrolling and translation operations. *Id.* at 190-91. The ALJ discounted Apple’s expert testimony on this issue, finding it is “entirely conclusory and fails to explain in any detail how in fact the source code relied upon is adapted for use in an

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infringement of the '949 patent or why such source code does not have any substantial non-infringing use." *Id.* at 190.

As discussed above, the Commission reverses the ALJ's finding that Apple has proven an underlying act of direct infringement in violation of Section 337. Apple's failure to prove direct infringement by any third party user of the '949 Accused Products necessarily means that Apple also fails to prove its allegations of indirect infringement. Though the Commission need not reach the other factors necessary to show contributory infringement, we do so for the sake of completeness.

In its May 28, 2013 notice of review, the Commission asked the parties to address the following:

1. Is the "material or apparatus" used in practicing the patented methods asserted in the '949 patent that is relevant to a substantial noninfringing use analysis the "combination of source code and hardware elements relied upon by Dr. Balakrishnan in his witness statement," as argued by Apple (Apple Pet. at 50-51)? To the extent that it is, what evidence in the record shows that the "combination of source code and hardware elements" is adapted for use in an infringement of the '949 patent and that it does not have any substantial noninfringing use?
3. Please comment on the requirement, if any, that the "material or apparatus" relevant to a substantial noninfringing use analysis must be "separate and distinct" from all other functions of a larger product in view of *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301 (Fed. Cir. 2009); *i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831 (Fed. Cir. 2010); *Fujitsu Ltd. v. Netgear Inc.*, 620 F.3d 1321 (Fed. Cir. 2010); and any other pertinent legal authorities. To the extent there is such a requirement, what evidence in the record shows that each "combination of source code and hardware elements relied upon by Dr. Balakrishnan in his witness statement" with respect to the '949 and the '922 patents is a "separate and distinct" feature of the Browser or Gallery application that warrants treating it separately in analyzing contributory infringement.

In response to the Commission's notice, Apple asserts that "the locked scrolling feature of the Browser application and the next-item swipe feature of the Gallery application" together constitute the features of the accused products which infringe the '949 patent. AInitSub at 3 (citing CX-2428C at Q82-156). Apple asserts that these features are performed by a

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combination of hardware and software components, which include “the touch screen which senses a finger gesture, the software that recognizes and processes the nature of that touch event, and the software for the Browser and Gallery applications which use the claimed heuristics to choose between certain commands based on the nature of that touch event.” *Id.* at 4. Apple argues that its expert testified that it is not possible to use these features in a noninfringing way. *Id.* (citing CX-2428C at Q161).

Samsung argues that Apple’s identification of the processor, touch screen display, and memory cannot be part of the relevant material or apparatus because these hardware elements are integral to the other functionality of the accused products. *SInitSub* at 5. Moreover, Samsung argues that the software identified by Apple, *e.g.*, source code for detecting touchscreen finger contacts, is used with all other applications in the accused products. *Id.* at 5-6. Therefore, Samsung asserts that the software and hardware elements identified by Apple are not separate and distinct features of the accused products. *Id.* at 6.

The IA argues that unlike the case in *Lucent* and *i4i*, there is no convincing evidence that the ’949 functionality employing heuristics is separate and distinct from the Browser application. *IAInitSub* at 6. The IA also argues that Dr. Balakrishnan merely provided a single conclusory statement that “[t]he source code . . . has no purpose other than to practice this method, and therefore has no substantial non-infringing use.” *Id.* at 7 (citing CX-2428C at Q161; *see also* ID at 190).

As we noted above with respect to the ’922 patent, Apple is not challenging the fact that the ALJ found that the Browser and Gallery applications have substantial noninfringing uses. *See APet* at 48-52. Nor is Apple challenging Samsung’s contention that the Browser and Gallery applications are separate and distinct components of the ’949 Accused Products. The only

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difference in the ALJ's findings and the parties' arguments concerning the '922 patent and the '949 patent on the issue of contributory infringement is what Apple considers the relevant "material or apparatus" to be. As with the '922 patent, the ALJ found that the relevant "material or apparatus" is the Brower and Gallery applications. Apple, however, argues that the "combination of source code and hardware elements" that control the locked scrolling feature and the next-item swipe feature is the relevant "material or apparatus" for purposes of the contributory infringement inquiry with respect to the '949 patent.

Apple relies entirely on the testimony of its expert, Dr. Balakrishnan, who testified, without explanation, that “[t]he source code discussed above, which Samsung has represented is used in its accused products, has no purpose other than to practice this method, and therefore has no substantial non-infringing use.” CX-2428C at Q161. As with the ’922 patent, we agree with the ALJ that this statement is entirely conclusory. *See supra* at 44-45.

Our findings and analysis in section V.C.ii.b in connection with the '922 patent applies equally to the '949 patent. *See supra* at 44-46. The portions of source code relied on by Dr. Balakrishnan with respect to his '949 patent infringement analysis include, *inter alia*

The hardware elements and the source code, however, are all integral to the other functionality of the accused products and are used by many other applications in the accused products. For example, the Phone software in the '949 Accused Products uses the source code for detecting touchscreen finger contacts when the user interacts with the touchscreen to enter a phone number. CX-341 at 58-63. As another example, the Email application in the '949 Accused Products also requires the use of the source code for detecting finger contacts when the user reads, composes, and sends

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e-mails. *Id.* at 113-20. Moreover, Apple cannot rely on source code especially made or adapted for use in an infringement as identified by Dr. Balakrishnan, but ignore this same source code for its substantial noninfringing use analysis. *See* SReplySub at 9.

Based on the record evidence, the Commission finds that the Browser and Gallery applications are “separate and distinct” components of the ’949 Accused Products. *See* CX-2428C at Q82, 98, 102-135, 148-56, 159. Therefore, the Browser and Gallery applications are the relevant materials or apparatuses in a substantial noninfringing use analysis for the ’949 patent claims. Accordingly, the Commission affirms with modified reasoning the ALJ’s finding that Samsung does not contribute to the infringement of the asserted claims of the ’949 patent.

c. Induced Infringement

The ALJ found that Samsung induced infringement of the method claims 11-16 of the ’949 patent based on similar types of circumstantial evidence that the ALJ relied on with respect to the ’922 patent. *Id.* at 186-88; *see* section V.C.ii.c above.

As discussed above, the Commission reverses the ALJ’s finding that Apple has proven an underlying act of direct infringement in violation of Section 337. Since direct infringement is a prerequisite to a finding of induced infringement, the Commission determines that Apple has also failed to prove by a preponderance of the evidence that Samsung is liable for induced infringement of the asserted claims. Though the Commission need not reach the other elements of induced infringement, we do so for the sake of completeness.

In its May 28, 2013 notice of review, the Commission asked the parties to address the following:

6. Please discuss and cite the evidence of record, if any, that shows Samsung actively and knowingly aided and abetted another’s direct infringement of claims 11-16 of the ’949 patent.

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In response to the Commission's notice, Apple argues that Samsung admitted that it had knowledge of the '949 patent and Apple's infringement contentions AInitSub at 23 (citing CX-406C at 15; JX-132C at 85). After obtaining this knowledge, Apple contends that Samsung continued to provide to customers user manuals that explicitly instructed its customers to practice the claimed methods. *Id.* at 23-24. Apple notes that Samsung has admitted that it continues to import these products during this investigation. *Id.* at 24.

Samsung argues that the ALJ's erroneous conclusion that Samsung induced infringement of the '949 patent (ID at 183-88) is based on the same flawed legal analysis and on the same types of insufficient evidence relied upon with respect to the '922 patent." SInitSub at 49-56. Samsung argues that the user manuals, YouTube videos, and Mr. Merrill's deposition testimony do not establish that it actively and knowingly aided or abetted another's direct infringement. *Id.* at 50.

The IA responds that the ALJ's finding of inducement is fully supported by the evidence. IAINitSub at 14 (citing CX-2428C at Q160; CX-341 at 126, 167; CX-336-53; CX-356-62; CX-375-400; CX-416-31).

The following paragraphs from the ID capture the entire basis for the ALJ's finding of active inducement:

As discussed in detail, *supra*, Samsung provides manuals that instruct end users of the '949 Accused Products to use, *inter alia*, the Browser and Gallery applications in a manner that infringes claims 11-16 of the '949 patent. Additionally, as previously discussed, Samsung publically demonstrates in an infringing manner the use of the '949 Accused Products and provides direct instruction through its support staff to the end users on how to use the infringing Browser and Gallery applications. Thus, I find Samsung's actions induced the infringing acts of the end users of the '949 Accused Products.

Samsung admits that it had actual knowledge of the '949 patent and of Apple's contention that Samsung's products were infringing the '949 patent as early as . (JX-218C at 384

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CX-406C

at 15.) Thus, I find that the evidence shows Samsung had knowledge of the '949 patent and Apple's general allegation of infringement regarding same at least as early as

Despite having been on notice of the '949 patent and having been provided claim charts showing alleged infringement (at least as of the time of the Complaint), the evidence shows that Samsung continues to manufacture, import, and sell the '949 Accused Products. The evidence also shows that the Browser and Gallery applications in the '949 Accused Products are designed in such a manner that they cannot be fully used for their intended purposes without infringing claims 11-16 of the '949 patent. *See Water Technologies*, 850 F.2d at 668-69 (Inferring specific intent to cause infringement from a defendant's knowledge of the patent and control over the design or manufacturing of the produced used for direct infringement.). The evidence further shows, as previously discussed, that Samsung instructs end users to use the Gallery and Browser applications in such a manner that necessarily requires invoking the claimed heuristics. *See Grokster*, 545 U.S. at 936 (Recognizing that providing instruction on how to engage in an infringing use "show[s] an affirmative intent that the product be used to infringe.").

ID at 186-88 (footnote omitted).

For substantially the same reasons discussed above with regard to the '922 patent, the record evidence does not support a finding of the requisite knowledge required for induced infringement of the asserted method claims in the '949 patent.⁶ *See supra* at 49. Even though Samsung continued to offer the accused products for sale after August 2010, the evidence and, in particular, the user manuals, is insufficient for Apple to meet its burden to prove that Samsung specifically intended to induce infringement. *See supra* at 49-53.

The ALJ cites no evidence in support of his conclusion that the Browser and Gallery applications in the '949 Accused Products are designed in such a manner that they cannot be fully used for their intended purposes without infringing claims 11-16 of the '949 patent. ID at

⁶ As with the '922 patent, Apple seems to rely only on user manuals as evidence that Samsung actively induced another's direct infringement. AReplySub at 23-24. For the same reasons as we discussed with respect to the '922 patent, we do not give any weight to the other evidence in the record, *i.e.*, YouTube videos and Samsung customer support. *See supra* at 50 n.5; RX-3636C at Q569-71; RDX-43C at 14-23.

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187. The ALJ's conclusion is contrary to his conclusion that the Browser and Gallery applications have substantial noninfringing uses. In addition, the ALJ fails to cite evidence in support of his conclusion that Samsung instructs end users to use the Gallery and Browser applications in such a manner that necessarily requires invoking the claimed heuristics. *Id.* at 187-88. Even if the manuals did entirely disclose the claimed steps, merely describing the infringing steps to show that the Browser and Gallery applications are capable of infringing does not establish that Samsung aided or abetted any end user to practice the claimed steps. *See Mirror Worlds*, 692 F.3d at 1360-61; *see also Toshiba Corp.*, 681 F.3d at 1365; *Vita-Mix Corp.*, 581 F.3d at 1329.

In view of the foregoing, the Commission determines that the ALJ incorrectly determined that Apple showed that Samsung induces infringement of claims 11-16 of the '949 patent. The Commission therefore reverses the ALJ's finding of induced infringement of claims 11-16 of the '949 patent by Samsung.

iii. Technical Prong of the Domestic Industry Requirement

Samsung alleges that the ALJ found that the '949 Domestic Industry Products practice the '949 patent based on the ALJ's erroneous claim constructions regarding "initial movement" and "heuristics." *See* SPet at 66. Because the Commission determines to affirm the ALJ's construction of the disputed claim limitations and direct infringement findings with respect to claims 1, 4-6, 10 and 17-20, the Commission also determines to affirm the ALJ's finding that '949 Domestic Industry Products practice the '949 patent. *See* section V.D.i above.

E. The '501 Patent

The '501 patent is one of Apple's two asserted patents claiming headset plug circuitry, titled "Audio I/O Headset Plug and Plug Detection Circuitry." The patent is directed to a plug

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and plug detection circuitry that can determine whether a microphone type of plug (e.g., a four region plug including a microphone region and two audio regions, or a three region plug including a microphone region and only one audio region) or a non-microphone type of plug (e.g., stereo plug) is inserted into the jack of a portable electronic device. JX-6 at Abstract.

Apple asserts that the '501 Accused Products infringe claims 1-4 and 8 of '501 patent.

The asserted claims read as follows:

1. A system for detecting which type of plug is received by a portable electronic device, the system comprising:
 - a jack constructed to receive a plug selected from at least a microphone type and a non-microphone type, wherein the jack comprises a microphone connector electrically coupled to CODEC circuitry and microphone detection circuitry, a ground connector coupled to a ground source, a right connector coupled to the CODEC circuitry, and a left connector coupled to the CODEC circuitry, and wherein the ground connector is positioned between the microphone connector and either the left connector or the right connector;
 - the microphone detection circuitry operative to:
 - determine whether the received plug is the microphone type or the non-microphone type; and
 - provide a signal indicative of whether the received plug is the microphone type or the non-microphone type.
2. The system of claim 1, wherein the device is a mobile telephone.
3. The system of claim 1, wherein the detection circuitry is operative to monitor the microphone connector for a switch activation event.
4. The system of claim 3, wherein the detection circuitry is operative to change the state of the signal in response to a monitored switch action event.
- ...
8. The system of claim 1, further comprising:
 - a processor electrically coupled to receive at least the signal and a HEADSET DETECT signal.

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i. Infringement

Apple divides its infringement contentions into four categories based on whether the '501

Accused Products are:

ID at 309-10.

The ID found that the Continuum SCH-1400 infringes all of the asserted claims (*id.* at 312-19); that the '501 Accused Products represented by the Transform SPH-M920 (collectively “the Transform devices”) infringe claims 1-2 and 8, but not claims 3 and 4 (*id.* at 319-330; RID at 5-9); and that the '501 Accused Products represented by the Galaxy Tab 7.0 and the Galaxy S II (collectively, “Galaxy Tab/S”) do not infringe any of the asserted claims (*id.* at 330-43).

As discussed in detail below, the Commission has determined to affirm the ALJ's findings on infringement in their entirety with respect to the '501 patent. Accordingly, the following '501 Accused Products are found to infringe one or more of claims 1-4 and 8 of '501

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patent: Acclaim SCH-R880; Continuum SCHI400; Epic 4G SPH-D700; Indulge SCHR910; Indulge SCH-R915; Intercept SPH-M910; and Transform SPH-M920.

a. Accused Devices represented by the Transform SPH-M920

1. Claim 3

In its petition for review before the Commission, Apple argues that Samsung waived its arguments that the Transform devices do not infringe claim 3 because the only noninfringement argument advanced by Samsung for the Transform devices was that they use an A/D converter, not a comparator. Complainant Apple Inc.'s Petition for Review of the Remand Initial Determination on Violation of Section 337 ("ARPet") at 4-5. On the contrary, we find that Samsung expressly argued in its pre- and post-hearing briefs before the ALJ that the Transform devices do not infringe claims 3 and 4 because they used a "dedicated comparator for switch detection." Respondent Samsung's Response to Apple's Petition for Review of the Initial Determination on Remand ("SRResp") at 3 (citing Samsung's Corrected Pre-Hearing Brief at 145-46; Samsung's Corrected Post-Hearing Brief ("SIB") at 232-33). Samsung's initial post-hearing brief, for example, argued the following:

Claim 3 recites: "The system of claim 1, wherein *the detection circuitry* is operative to monitor the microphone connector for a switch activation event." (JX-0006 at 11:8-10) (emphasis added). The very same circuitry from claim 1 — used for "microphone detection" — must be used for the "switch activation" of claim 3.

These Samsung products, however, do not use *the* "microphone detection circuitry" to "monitor the microphone connector for a switch activation event," but rather use entirely different circuitry to "monitor the microphone connector for a switch activation event." (RX-3637C, Q 728-38 at 65-71, Q 747-52 at 72-73; CX-1138C; JX-0032C; JX-0046C; JX-0045C; JX-0047C; CX-0931C; CX-1135C; JX-0038C).

(*Id.*). They cannot infringe claim 3 because their circuitry for switch detection is not the same circuitry.

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SIB at 232-33. Samsung also responded to Apple’s doctrine of equivalents argument with respect to claim 3 in its post-hearing reply brief. SRResp at 3 (citing Samsung’s Post-Hearing Reply Brief at 92).

We find that the record evidence supports the ALJ’s finding that the Transform devices do not infringe claim 3 of the ’501 patent because Apple failed to show by a preponderance of the evidence that the Transform devices meet the “the detection circuitry is operative to monitor the microphone connector for a switch activation event” limitation. RID at 6-8; *see Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 29 (1997) (holding that the all elements rule applies to the doctrine of equivalents and, as to an individual element, the application of the doctrine must not expand or eliminate the element in its entirety). In particular, we agree with the ALJ’s interpretation of claim 3 to explicitly require that the microphone detection circuitry detects plug type and outputs a signal indicative of plug type as required by claim 1, and must also be operative to monitor the microphone connector for a switch activation event as required by claim 3. *Id.* at 6. Apple’s expert, Dr. Phinney, testified that

⁷ *Id.* (citing CX-2429C (Phinney DWS) at Q267, 271, 273). The ALJ found Dr. Phinney's testimony unpersuasive for two reasons. First, the ALJ found that Dr. Phinney provided no cogent explanation as to why

⁷ A comparator, in the context of the '501 patent, is a device that compares two signal line voltages and switches its output to one of the signal lines that contains the greater of the two voltages. See RX-3637C (Russ RWS) at Q729. A switch activation event occurs when a user, for example, presses an accessory switch to end a phone call on a handheld device. See *id.* at Q730; see also JX-6 at 6:61; ARPet at 4.

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Id. at

6-7. Second, the ALJ found that

Id. at 7 (citing JX-45C at 5; RX-3637C (Russ RWS) at Q735-38). Accordingly, the ALJ concluded that Apple failed to show by a preponderance of the evidence that the Transform devices literally infringe claim 3 of the '501 patent.

Apple argues that “[n]othing in claim 3 requires that the detection circuitry cannot comprise more than one comparator, or that the same comparator within the detection circuitry must perform both functions.” ARPet at 5. Apple contends that the ’501 patent explains, with respect to the embodiment shown in Figures 5 and 6, that the microphone detection function employs the circuitry that outputs both the HEADSET DETECT signal and the MIC signal, but the switch monitoring function, on the other hand, uses only the circuitry that outputs the MIC signal. *Id.* at 10 (citing JX-6 at 7:1-21, 7:22-34).

We discern no error in the ALJ's interpretation of claim 3. As explained in the RID, in order to infringe claim 3, the explicit language of the claims requires that the *same* circuitry that detects plug type and outputs a signal indicative of plug type as required by claim 1, must also be operative to monitor the microphone connector for a switch activation event as required by claim 3. *Id.* at 6. Apple does not challenge this finding in the RID. This finding is not inconsistent with Apple's statement that nothing in claim 3 requires that the circuitry cannot comprise more than one comparator, or that the same comparator must perform both detection functions. Apple failed to show by a preponderance of the evidence that the Transform devices employ the *same* circuitry for microphone type detection and switch activation.

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As to Apple's second statement regarding the HEADSET DETECT and MIC signals, we agree with Apple that the '501 patent discloses that the microphone detection circuitry 500 includes the circuitry that outputs both the HEADSET DETECT signal and the MIC signal. *See* JX-6 at FIG. 5. However, Apple misconstrues the teachings of the '501 patent because the '501 patent discloses that the microphone type detection and switch activation detection are performed by the same circuitry that generates the MIC signal. The HEADSET DETECT signal, on the other hand, indicates whether a plug is received by the jack, which is irrelevant to claim 1's microphone type detection limitation. The '501 patent expressly discloses in connection with FIG. 5 that the "[d]etection circuitry 500 may be operative to determine whether a microphone type of plug . . . or a non-microphone type of plug . . . is inserted into the jack of the electronic device (e.g., mobile phone). The detection circuitry may provide a MIC signal that indicates whether the received plug is a microphone or non-microphone type. For example, when the plug is received, a LOW MIC signal may indicate that a microphone type of plug is received." *Id.* at 5:60-6:3. This passage from the '501 patent thus discloses that the circuitry outputting the MIC signal satisfies the claim 1 requirement that the microphone detection circuitry is operative to "determine whether the received plug is the microphone type or the non-microphone type; and provide a signal indicative of whether the received plug is the microphone type or the non-microphone type." *Id.* at 10:67-11:4. Apple's citation to the part of the '501 patent that discloses that the "[d]etection circuitry 500 may also provide a HEADSET DETECT signal that indicates whether a plug is received by the jack," is irrelevant to claim 1's microphone type detection limitation. *Id.* at 6:3-5. The '501 patent also discloses that "changes in the state of the MIC signal may indicate the occurrence of a switch activation," which the parties do not dispute. *Id.* at 6:59-61; ARPet at 10; SRResp at 12. Therefore, the '501 patent discloses that the

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microphone detection and switch activation detection are performed by the same circuitry that generates the MIC signal.

Apple also argues that

ARPet at 5 (citing JX-45C at 5; CX-2429C (Phinney) at Q279). Sharing an input signal, *i.e.*, however, has no bearing on whether two hardware circuits are the same or not. SRResp at 5. Under Apple's theory, as Samsung argues, all circuitry that accepts the signal would be part of the detection circuitry. *Id.* at 5-6. For example, the "CODEC circuitry" of claim 1, which is unquestionably separate from the detection circuitry, *Id.* at 5 (citing Apple Pet. at 7; JX-6 at 10:58-61). With respect to the product schematic in JX-45C at 5, nothing in the record supports Apple's theory that

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Id. at 9. Other than Dr. Phinney's summarily conclusive statement that the

(CX-2429C

(Phinney DWS) at Q271) Apple has provided no other evidence explaining what is shown in the schematic JX-45C or why the two comparators should be considered part of the same circuitry.

See RID at 7.

Apple further argues that Dr. Phinney's testimony provides a more than "cogent explanation" why the two comparators are properly understood to be part of the same grouping

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Samsung raises this argument for the first time in their remand response brief before the Commission. *Id.*

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of circuitry. ARPet at 5-7 (citing CX-2429C (Phinney) at Q206, 211, 214, 265-267, 271; CX-1299C).⁹ Having reviewed all of Dr. Phinney's testimony regarding the '501 patent, we disagree. In his direct witness statement at Q206, 265-67, Dr. Phinney testified regarding . Dr. Phinney's only testimony regarding is at Q271, 273, 279 and 281. Similar to his testimony in Q271, Dr. Phinney's testimony in Q279 and 281 is the same conclusory statement that the In connection with claim 4, Dr. Phinney states in Q273 that the

Accordingly, we find that Dr. Phinney's testimony does not provide any explanation as to why the are part of the same circuitry.¹⁰ SRResp at 6-7; RID at 8-9.

Apple contends that even if the Transform devices do not literally infringe, they do so under the doctrine of equivalents ("DOE"). ARPet at 9. Apple argues that the Transform devices perform substantially the same function, *i.e.*, to monitor the microphone connector for a switch activation event), in substantially the same way, *i.e.*, and yields substantially the same result, *i.e.*, detecting a change in voltage when a user presses the accessory switch. *Id.*

⁹ We note that CX-1299C, reproduced on page 7 of Apple's Remand Petition and which is based on JX-45C, is not admitted evidence in the record of this investigation. *See* ARPet at 6.

¹⁰ Samsung's expert, Dr. Russ, testified that the

RX-3637C at Q735. Dr. Russ testified that this is shown with regard to the Transform devices at RDX-45C-23. *Id.*

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RID at 8-9 (citing RX-3637C (Russ RWS) at Q737). Dr. Phinney fails to address Dr. Russ's testimony. We find no error in the ALJ's determination that Dr. Phinney's testimony is not persuasive in light of the record evidence.

In view of the foregoing, the Commission determines to affirm with our bolstered analysis the ALJ's finding that the Transform devices do not infringe claim 3 of the '501 patent.

2. Claim 4

At the outset, we reject Apple's argument that Samsung waived its noninfringement arguments with respect to the Transform devices. APet at 65-66. Samsung's post-hearing briefs explicitly argue that products that use an ADC for plug type detection and products that have a "dedicated comparator for switch activation" do not practice the asserted claims because they do not "change the state of *the signal* in response to a monitored switch action event." See SIB at 225-232, 233 (emphasis original).

We find that the intrinsic evidence supports the ALJ's interpretation of claim 4 to require that "the signal" that changes state in response to a switch activation event be the same signal that is indicative of plug type. ID at 325. First, the language of claim 4 unambiguously requires that "the signal" that is changed in response to a switch activation event is the *same* signal that is indicative of plug type. JX-6 at 11:11-13. Second, the embodiment of FIG. 5 disclosed in the '501 patent indicates that the same signal is used for a switch activation event and for microphone detection. See *id.* at FIGS. 5-7. The '501 patent disclosure describes that the MIC signal in FIG. 5 is operative for microphone detection and switch activation detection:

Detection circuitry 500 may provide MIC signal, for example, to a processor (e.g., processor 102 of FIG. 10. The state of the MIC signal may indicate whether a headset with a microphone is connected to jack 510. In addition, if a microphone headset is connected to jack 510, changes in the state of the MIC signal may indicate the occurrence of a switch activation (e.g., a user presses a switch to end a telephone call).

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Id. at 6:55-61. Therefore, we agree with the ALJ that the Transform devices do not infringe claim 4 because they do not meet the limitation “the detection circuitry is operative to change the state of the signal in response to a monitored switch action event.”

Apple’s contention that the Transform has just one signal, *originating* from the same source, and merely does not refute the ALJ’s conclusion that

APet at 67; ID at 325-26. In particular, the ALJ found that the evidence shows that

ID at 325 (citing CX-2429C (Phinney DWS) at Q273). We discern no error in this finding by the ALJ.

Apple also argues that the ALJ erred in finding that claim 4 is not infringed under DOE because the “dedicated comparator” implementation of the Transform devices

APet at 67 (citing ID at 328). The ALJ found that Apple’s expert does not address the fact that the Transform devices operates in a different way than the claim by

ID at 328. Furthermore, Apple does not refute that one of the stated goals of the ’501 patent is to reduce size and that the patent teaches away from Samsung’s approach in the Transform devices. *See* JX-6 at 1:12-18, 4:50-54; SResp at 79. We agree with the ALJ that the differences caused by using two signals are substantial.

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In view of the foregoing, the Commission determines to affirm with our bolstered analysis the ALJ's finding that the Transform devices do not infringe claim 4 of the '501 patent.

b. Galaxy Tab/S Class of Products

The asserted claims require a "microphone detection circuitry," which the ALJ construed to mean "circuitry that determines whether a received plug is a microphone type or a non-microphone type." ID at 309. The record evidence supports the ALJ's finding that the Galaxy Tab/S products do not literally infringe any of the asserted claims because the products use

Id. at 333-36.

Substantial intrinsic evidence supports the ALJ's interpretation of "circuitry" to connote a hardware embodiment in the context of the '501 patent. Apple does not dispute that all of the embodiments in the specification for the "microphone detection circuitry" use a single transistor, *e.g.*, a field-effect transistor such as an NMOS transistor, to perform the "determining" limitation and provide a MIC signal that is indicative of microphone detection. *See* JX-6 at 6:30-32, 6:63-64, FIG. 5 (element **532**). The '501 patent disclosure also teaches that the circuitry that performs the "determining" limitation is separate from a processor. *Id.* at 6:55-56 ("Detection circuitry **500** may provide a MIC signal, for example, to a processor (*e.g.*, processor **102** of FIG. 1))." In fact, "software" is mentioned only once in the specification. *Id.* at 2:66-3:1 ("Storage device **104** may store media (*e.g.*, music and video files), software (*e.g.*, for implementing functions on device **100**")). Applying the ALJ's interpretation of "circuitry" to require a hardware embodiment, we find that substantial evidence supports the ALJ's finding that the claimed "circuitry," as correctly construed, is literally absent from the Galaxy Tab/S class of products.

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While we agree with Apple that certain software implementations may be readily interchangeable with a hardware implementation, Apple has not shown that the ALJ's factual finding that the (APet at 62) is not equivalent to the claimed "circuitry" is erroneous. The Federal Circuit has recognized that "the line of demarcation between a dedicated circuit and a computer algorithm accomplishing the identical task is frequently blurred." *In re Alappat*, 33 F.3d 1526, 1583 (Fed. Cir. 1994). Apple relies on *Overhead Door Corp. v. Chamberlain Group, Inc.*, 194 F.3d 1261, 1269-70 (Fed. Cir. 1999) for the proposition that "software" and "hardware" may be interchangeable and that the selection of one over the other is simply a matter of design choice. The Federal Circuit in *Overhead Door*, however, was reviewing a grant of summary judgment, and remanded to the fact-finder to determine the equivalents issue because the court found the record created a genuine issue of material fact as whether physically flipping a switch was interchangeable with flipping a switch in software. 194 F.3d at 1269-70. By contrast, the ALJ's factual finding in this investigation is supported by substantial evidence and Apple has not shown that one of ordinary skill in the art, other than its expert, would recognize interchangeability. *See* ID at 338-40, 342-43. When faced with a similar argument in *Mass. Inst. of Tech. and Elecs. For Imaging, Inc. v. Abacus Software*, 462 F.3d 1344, 1356 (Fed. Cir. 2006), the court construed "aesthetic correction circuitry" to be clearly limited to hardware in light of the claim language, the specification, and the dictionary definition. In that case, Microsoft urged that "circuitry" should be limited to hardware, whereas MIT urged that it should include both hardware and software. *Id.* The court noted that the specification describes the components of the "circuitry" as hardware components. *Id.* Although the specification suggests that certain computations performed by the "circuitry" can be accomplished with either hardware or software, the court found that this reference does

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not alter the specification's repeated description of the circuit itself as involving hardware. *Id.* at 1356-57. The court held "the specification references do not require that 'circuit' be interpreted to include software." *Id.* at 1357.

The ALJ also concluded as a matter of law that the Galaxy Tab/S products do not infringe the '501 patent under DOE. ID at 338-40, 342-43. Specifically, the ALJ found that the evidence shows that determining plug type is not done substantially the same way as determining plug type in hardware. *Id.* at 339. In addition, the ALJ found that the evidence shows that providing a signal of the plug type is not done in substantially the same way and does not produce substantially the same result as providing a signal in hardware. *Id.* at 339-40.

There appears to be no factual dispute as to how the Galaxy Tab/S class of products operate. The issue is whether the accused products'

is equivalent to the claimed “circuitry” that determines the plug type and whether the signal provided by the products’ is equivalent to the claimed “signal” that is indicative of the plug type. Apple’s expert, Dr. Phinney, testified that the Galaxy Tab 7.0 meets the “determining” limitation because:

CX-2429C at Q297. Apple, however, has not shown that the ALJ was unreasonable to credit the testimony of Samsung's expert, Dr. Russ, over that of Apple's expert. Dr. Russ testified that a person of ordinary skill in the art would understand how to make "minor variations, such as replacing the transistor (which acts like a switch) with a comparator (which also acts like a switch)," but the person would not understand "how to replace the single-

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transistor circuit implementation of the '501 patent with an ,” RX-3637C at Q691, which

id. at Q690. Dr. Russ also testified that “[e]ven if the person considered adding circuitry to an ADC to meet the limitations, the '501 patent teaches away from this implementation by consistently teaching that the space in the device should be limited by having simplified circuitry.” *Id.* at Q691.

We also find no error in the ALJ’s determination to credit the testimony of Dr. Russ over that of Dr. Phinney with respect to the claimed “providing a signal” limitation. Dr. Phinney testified that the Galaxy Tab 7.0 meets this limitation under DOE:

The detection of whether the received plug is the microphone type or nonmicrophone type is performed

In the embodiment of the Claim 1 as shown in Figure 5 of the '501 patent, by comparison, the microphone detection circuitry sets the level of “MIC Signal” depending on whether the voltage at the gate of transistor 532 causes transistor 532 to turn on or off. In both cases, a digital determination of the type of plug inserted into the jack is based on the voltage at microphone connector.

CX-2429C at Q299. Dr. Russ testified that the

RX-3637C at Q693. Dr. Russ also testified that

and that this “is nothing like the ‘signal indicative’ provided by the ‘microphone detection

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circuitry,’ which is an actual voltage signal generated as a result of the claimed ‘determination.’”

Id. Based on the record evidence, we find that the ALJ did not err in finding that the Galaxy Tab/S class of products’ does not accomplish substantially the same function, in substantially the same way, to achieve substantially the same result as the claimed “microphone detection circuitry.”

In view of the foregoing, the Commission affirms, with our bolstered analysis, the ALJ’s finding that the Galaxy Tab/S products do not infringe the asserted claims of the ’501 patent.

ii. Validity

We find no error in the determination by the ALJ that the ’501 patent is not invalid. *Id.* at 344-79. The record evidence supports the ALJ’s findings that the asserted claims are not anticipated by U.S. Patent No. 7,836,216 (“Kashi”) or the iPod Video. *Id.* at 350-55, 357-60. We also find no error in the ALJ’s rejection of all of Samsung’s obviousness arguments. *Id.* at 363-66, 372-74, 376-79. Accordingly, the Commission affirms the ALJ’s findings on validity in their entirety.

F. The ’697 Patent

The ’697 patent, titled “Plug Detection Mechanisms,” is the second of Apple’s two asserted patents claiming headset plug circuitry. The patent is directed to an electronic device capable of detecting the presence of a plug of an accessory component. JX-5 at Abstract.

Apple argues that the ’697 Accused Products infringe claims 13 and 14 of ’697 patent. The asserted claims and independent claim 12 from which claims 13 and 14 depend are reproduced below:

12. An electronic device capable of detecting the presence of a plug of an accessory component, wherein the plug includes a first plug contact, the electronic device comprising:

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a receptacle configured to accept the plug;

a first receptacle contact disposed in the receptacle, wherein the first receptacle contact is configured to communicate with the first plug contact;

a detect contact disposed in the receptacle relative to the first receptacle contact so that the presence of the plug within the receptacle creates a plug signal path through the plug and between the detect contact and the first receptacle contact, wherein the detect contact and the first receptacle contact both contact the same first plug contact when the plug is present in the receptacle; and

detection circuitry coupled to the detect contact and the first receptacle contact to detect that the signal path is a low or a high impedance path.

13. The electronic device of claim 12, wherein the electronic device further comprises:

a first input/output component; and

control circuitry coupled to the detect contact, wherein the control circuitry is configured to instruct the electronic device to utilize the first input/output component when a detect signal on the detect contact has a first value, and wherein the control circuitry is configured to instruct the electronic device to utilize the accessory component when the detect signal has a second value.

14. The electronic device of claim 13, wherein the plug signal path is configured to make the detect signal have the second value.

i. Claim Construction and Direct Infringement

Claims 13 and 14 of the '697 patent require "detection circuitry coupled to the detect contact and the first receptacle contact to detect that the signal path is a low or a high impedance path." The ALJ found that the '697 Accused Products do not satisfy this sole disputed limitation.¹¹ Specifically, the ALJ found that the '697 Accused Products do not "detect that the

¹¹ The final ID analyzed infringement based on Apple's categorization of the '697 Accused Products, which divided the products based on whether the product uses "GND-detection" circuitry or uses "L-detection" circuitry to detect the presence of a plug. ID at 382-83. Because the ALJ found noninfringement of both categories of products for the same reasons and the parties make the same arguments for both categories of products, our analysis does not differentiate the '697 Accused Products.

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signal path is . . . a high impedance path,” ID at 390-91 and 399-400, and they do not include “detection circuitry coupled to the detect contact and the first receptacle contact” when there is high impedance and no plug in the receptacle, *id.* at 395-95, 401-02.

In its May 28, 2013 notice of review, the Commission asked the parties to address the following:

8. What evidence in the record supports or does not support whether a person of ordinary skill in the art would understand from the '697 patent disclosure that a “signal path” exists even in the absence of a plug in the receptacle? To the extent the “signal path” exists even in the absence of a plug in the receptacle, what record evidence shows that the detection circuitry is “coupled to the detect contact and the first receptacle contact” as recited in claim 12 of the '697 patent when the claimed detection circuitry detects that “the signal path is a low or a high impedance path”?
9. Please comment on Samsung’s argument that Apple’s Petition as to the '697 patent relies on a newly proffered claim construction argument that construes the claim limitation “to detect that the signal path is a low or a high impedance path” in claim 12 to require “circuitry that detects that the signal path is a low impedance path only.”

Apple argues that the ALJ’s construction of the limitation “detection circuitry coupled to the detect contact and the first receptacle contact to detect that the signal path is a low or a high impedance path” renders the claims of the '697 patent inoperable. APet at 70. Apple also argues that the ALJ’s application of that construction for that limitation, which was the only limitation in dispute with respect to the asserted claims of the '697 patent was erroneous. *Id.* Apple asserts that the ALJ’s interpretation and application of the claim language effectively changed the “or” to “and,” requiring the detection circuitry to detect both when the signal path is high impedance and low impedance. *Id.* at 71. Apple argues that the claim literally requires only coupling to detect low or high impedance, and there is no dispute that the detection circuitry is coupled to the detect contact and the first receptacle contact via the plug to detect low impedance. AInitSub at 33-34.

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Furthermore, while both parties agree that the asserted claims are limited to one “signal path,” Apple challenges the ALJ’s conclusion that a “signal path” exists only when the plug is present. *Id.* at 28-29. Apple argues that just as a single circuit can have two states—closed or open—a single signal path can have two states—low or high impedance. *Id.* at 30. Apple asserts that the presence of the plug creates the “plug signal path” which is a subset of the “signal path” corresponding to low impedance. APet at 73. Apple argues that Samsung itself argued in its *Markman* briefing and Dr. Phinney confirmed that the reference to a low or a high impedance path refers to a closed or open circuit. AInitSub at 31.

Samsung asserts that the intrinsic evidence shows that claim 12 of the ’697 patent requires the presence of a plug for the “signal path” to exist. SInitSub at 65-68. Samsung also asserts that claim 12 requires the detection circuitry to be “coupled” to the first receptacle contact when there is high impedance. *Id.* at 72-73. According to Samsung, neither Samsung’s nor Apple’s products satisfy this limitation. *Id.* at 73-74. Samsung contends that Apple petitioned for the first time to ask the Commission to construe the limitation “to detect that the signal path is a low or high impedance path” to require circuitry that detects that the signal path is a low impedance path only. SResp at 83-84. Samsung argues that Apple’s new claim construction theory is waived. *Id.* Samsung also argues that prosecution history disclaimer bars Apple’s request for a construction that broadens claim 12 to include detection circuitry that detects low impedance alone. *Id.* at 85.

The IA argues that Apple’s proposed construction would require the claims to be re-written to indicate that the “signal path” exists prior to the insertion of the plug, but claim 12 recites “the presence of the plug within the receptacle *creates* a plug signal path” (emphasis added). IARes at 19. The IA disagrees that the claim requires detection of only one of the two

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impedances. The IA argues that when the claim is read in its entirety, it is clear that the signal path does not exist until the plug is inserted into the receptacle. *IA InitSub* at 18-19. In contrast, the IA contends that one of ordinary skill in the art would understand that the claimed detection circuitry is not coupled to the first receptacle contact during high impedance. *Id.* at 20.

The parties dispute two key issues. First, whether the “signal path” exists only when a plug is present in the receptacle, as the ALJ found, or does the “signal path” exist even in the absence of a plug. Second, whether the detection circuitry is required to be coupled to the detect contact and the first receptacle contact even when there is no plug present in the receptacle, and if so, whether the ‘697 Accused Products have detection circuitry that is coupled to the detect contact and the first receptacle contact when there is high impedance. We examine each of these issues in turn.

a. “detection circuitry . . . to detect that the signal path is a low or a high impedance path”

In the final ID, the ALJ found that there is only one “signal path” recited in the claims and that the term “a plug signal path” in claim 12 provides antecedent basis for the later reference to “the signal path.” ID at 388. Based on this finding, the ALJ concluded that the “signal path” exists only when the plug is present. *Id.* The ALJ also found that the claims require “detection circuitry . . . to detect that the signal path is . . . a high impedance path” in addition to being able to detect a low impedance path.¹² *Id.* at 390. As a result, the ALJ concluded that none of the ‘697 Accused Products satisfy this limitation when the plug is present

¹² Impedance is a measure of how much a circuit impedes the flow of current. It is like resistance, but it also takes into account the effects of capacitance and inductance. High impedance means that a point in the circuit allows a relatively small amount of current through. See Hr’g Tr. at 2451:16-21.

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because the presence of the plug creates a signal path that is a low impedance path only. *Id.* at 390-91, 399-400.

At the outset, the record evidence supports the ALJ's conclusion that the term "a plug signal path" in claim 12 provides antecedent basis for the later reference to "the signal path." *Id.* at 388. The specification discloses that the body of the plug can be used to *complete* the signal path, or circuit, between the detect contact and a jack contact. *Id.* at 389; JX-5 at 5:25-26, 5:37-39. During prosecution of the '697 patent application, the patentee frequently used the term "signal path" to refer to the claim term "plug signal path": "the presence of the plug within the receptacle creates *a signal path* through the plug and between the detect contact and the first receptacle contact." JX-11 at 98 (emphasis added). At the hearing, Apple's expert, Dr. Phinney, testified that "there is one signal path," and that the "plug signal path" is "just another phrase . . . that refers to the signal path, when it has a low impedance caused by the presence of a plug." Hr'g Tr. at 997:9-25. Accordingly, we agree with the ALJ's conclusion that there is only one "signal path" recited in the claims and that the term "a plug signal path" in claim 12 provides antecedent basis for the later reference to "the signal path." *ID* at 388-89.

The ALJ, however, erred in concluding that the '697 Accused Products do not "detect that the signal path is . . . a high impedance path" because the "signal path" exists only when a plug is present in the receptacle.¹³ *Id.* While there is only one "signal path," substantial

¹³ We reject Apple's argument that claim 12 requires detection circuitry that detects the signal path is a low impedance path only. Apple improperly raised this new argument for the first time on petition for review before the Commission. SResp at 83-84. Before the ALJ, Apple consistently argued that the asserted claims require that the detection circuitry detects a high impedance path. *See* AIB at 217; Phinney Dep. (Apr. 17, 2012) at 81:21-82:19; Hr'g Tr. at 907:20-910:23. Therefore, we find Apple's new claim construction argument not raised before the ALJ waived. *See Certain Ground Fault Circuit Interrupters and Products Containing Same*, Inv. No. 337-TA-739, Comm'n Op. at 18-19 (June 8, 2012) (finding a new claim construction argument not raised to the ALJ by either party during the hearing waived).

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evidence shows that the “signal path” can have two states: (1) a first state indicating a low impedance path; and (2) a second state indicating a high impedance path. *See* Hr’g Tr. at 2453:7-10.

Claims dependent from claim 12 show that the “signal path” exists not only when the plug is present in the receptacle to *complete* the circuit path, but also exists when the plug is absent from the receptacle causing a gap in the circuit path. Dependent claims can supply additional context for construing the scope of the independent claim associated with those dependent claims. *Intamin v. Magnetar Tech.*, 483 F.3d 1328, 1335 (Fed. Cir. 2007). For example, claim 15, which depends from claim 12, recites that “the plug signal path is a low impedance path.” If the “signal path” in claim 12 is limited to only a low impedance path created by the presence of the plug in the receptacle, as the ALJ found, then the scope of claim 15 would be the same as claim 12. *See id.* (holding that where a dependent claim limited the term “intermediary” to “non-magnetic,” reference to an “intermediary” in the associated independent claim must include both “magnetic and non-magnetic intermediaries”). In addition, claim 26, which depends from claim 12, requires the detection circuitry “to detect that the plug is not present in the receptacle by detecting that the signal path is a high impedance path caused by a gap in the signal path.” In contrast, claim 25, which also depends from claim 12, requires the detection circuitry “to detect the presence of the plug by detecting that the signal path is a low impedance path.” Claims 25 and 26 indicate that the patentee distinguished detection of a low impedance path by the presence of the plug in the receptacle from detection of a high impedance path by the absence of the plug in the receptacle. *See* Hr’g Tr. at 998:1-1001:2. Therefore, we find that the dependent claims show that a signal path exists when the plug is both present and absent from the receptacle and that the claimed “detection circuitry” can detect that the signal

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path is a low or a high impedance path based on detecting the presence or absence of the plug in the receptacle. As the Federal Circuit has stated, “because the term [“high impedance path”] is used in every claim, the construction of the term must be broad enough to encompass every claim.” *Stored Value Solutions, Inc. v. Card Activation Techs., Inc.*, No. 2011-1528, 2012 WL 6097674, at *6 (Fed. Cir. Dec. 10, 2012) (non-precedential). Accordingly, we conclude that the term “the signal path,” as used in the claims, is not limited to the situation when a plug is present to create a low impedance path, but also covers when a plug is absent in the receptacle to create a high impedance path.

The specification is also consistent with our interpretation of the “detection circuitry” limitation. The ’697 patent discloses “[s]ystems for detecting when a plug of an accessory component, e.g., headphone, is present within a jack of an electronic device,” e.g., cell phone. JX-5 at 2:33-35. FIGS. 3A and 3B, for example, illustrate a plug detection mechanism in accordance with the claimed invention. The specification describes FIG. 3B as follows:

[W]hen plug **122** is inserted into and present within receptacle **112** of jack **102**, a circuit signal path may be created through plug **122** (e.g., through plug contact **124b**) and between detect contact **116b** and jack contact **114b**. This can cause a signal on detect contact **116b** to go low (i.e., less than or equal to a predetermined signal value) if, for example, jack contact **114b** is a ground jack contact (e.g., a contact coupled to ground). This low signal can then be detected by a control unit of device **100**, as described in more detail herein below with respect to FIG. 5.

Id. at 5:24-34 (emphasis added). The above disclosure teaches that the presence of the plug in the receptacle *causes* the signal to go low. The specification also describes in connection with the embodiment shown in FIG. 2B that a gap in the signal path can cause the signal on the detect contact to go high.

This force exerted by plug **122** can move biased jack contact **114d** away from detect contact **116a**, thereby creating a gap **117** between biased jack contact **114d** and detect contact **116a**, as shown in FIG. 2B. Gap **117** may thereby open the circuit that had been previously established across jack contact **114d** and detect

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contact **116a** when they were baised against each other, as shown in FIG. 2A. This can cause a signal on detect contact **116a** to go high.

Id. at 4:54-61. Even though FIG. 2B shows the presence of a plug in the receptacle, the concept that a gap in the circuit path across jack contact **114d** and detect contact **116a** creates a high impedance path applies equally to the embodiment in FIG. 3A when the absence of the plug in the receptacle causes a gap in the circuit across jack contact **114b** and detect contact **116b**.

The prosecution history for the '697 patent is also helpful in discerning the proper meaning and scope of the disputed limitation. During prosecution, the patentee added claim 22, which recited "[t]he electronic device of claim 12, further comprising control circuitry coupled to the detect contact to detect the signal path." JX-11 at 103. As support for the newly added claim 22, the patentee described both embodiments shown in FIG. 4B (presence of plug in receptacle creates "a low impedance electrical circuit") and FIG. 2B (presence of plug in receptacle creates "a gap" between the contacts). *Id.* at 99. Thus, we find that the circuitry in claim 22 is able to detect the signal path both when there is a gap between the contacts causing the detect signal to go high and when the plug is present between the contacts creating a low impedance circuit through the plug. Based on the intrinsic evidence, we conclude that a person of ordinary skill in the art reading the entire patent specification would understand that a signal path exists even when a plug is not present in the receptacle.

There is no dispute about the operation of the '697 Accused Products. Specifically, the evidence shows that a low voltage output from the detection circuitry of the '697 Accused Products indicates a low impedance path and the presence of the plug in the receptacle, while a high voltage output from the detection circuitry of the '697 Accused Products indicates a high impedance path and the absence of the plug in the receptacle. ID at 386-87, 393. Based on the Commission's interpretation of the "detection circuitry" limitation, we determine that the '697

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Accused Products satisfy the requirement that the detection circuitry “detect that the signal path is . . . a high impedance path.”

b. “detection circuitry coupled to the detect contact and the first receptacle contact to detect that the signal path is a low or a high impedance path”

The ALJ further found that even if the signal path existed in the absence of the plug, the detection circuitry could not be “coupled to the detect contact and the first receptacle contact to detect that the signal path is a . . . high impedance path.” *Id.* at 394-95. We find that the ALJ incorrectly assumed that the plug must be present in the receptacle in order to satisfy the coupling requirement. We also find that the ALJ erred in construing the term “coupling” narrowly to require “direct, persistent, mechanical contact.” *See id.* at 396, 401; *see* APet at 75.

The intrinsic evidence supports the interpretation that the disputed limitation requires that the detection circuitry is *electrically* coupled to the detect contact and the first receptacle contact to detect the signal path. APet at 75; *see Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 992 (Fed. Cir. 1999) (holding that electrical coupling is sufficient). The specification does not require mechanical or physical coupling between the detection circuitry and the contacts because it provides that the signal on the detect contact can be detected even in embodiments disclosing a gap in the signal path. *See* JX-5 at 7:48-51 (detecting a high signal on detect contact **116a** with respect to the embodiment shown in FIGS. 2A and 2B). Apple’s expert testified at the hearing that the detection circuitry determines whether a plug is present based on the transfer of current between the two contacts, *i.e.*, when the plug is present, impedance is low, and the transfer of current is high; when the plug is not present, impedance is high, and the transfer of current is minimal. APet at 75 (citing Hearing Tr. at 919:6-14, 921:12-16; RX-3450C at Q39-40, Q98). In one embodiment, the ’697 specification discloses that the detection circuitry is coupled to the detect contacts **116** to detect a high or low value:

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FIG. 5 illustrates additional control circuitry **130** that may be coupled to one or more detect contacts **116** of jack **102** (e.g., detect contact **116a**, **116b**, and/or **116c**) for detecting the presence of a plug in accordance with the invention. Detect contact **116** can be coupled to a control unit **138** of control circuitry **130**. Control unit **138** can be configured to detect the value of signal on detect contact **116** (e.g., whether the value of the signal is high or low), and can instruct electronic device **100** to behave accordingly.

JX-5 at 7:39-47. Samsung's expert, Dr. Russ, admitted in his validity opinion regarding an asserted prior art reference that even though there is an open circuit between the contacts when the plug is removed, the detection circuitry is coupled to the detect contact to detect a high impedance path between the detect contact and the first receptacle contact. ID at 410; RX-3450C at Q157. In view of the record evidence, we conclude that a person of ordinary skill in the art at the time of the invention would understand that the "detection circuitry" limitation in claim 12 is electrically "coupled to the detect contact and the first receptacle contact" when the signal path is a "high impedance path" created by the absence of the plug in the receptacle.

It is undisputed that the detection circuitry is coupled to the detect contact in the '697 Accused Products. ID at 393

400

There is also no dispute in the '697 Accused Products that the detection circuitry outputs a signal on the detect contact that is indicative of low impedance or high impedance. *Id.* at 393

400

Therefore, we conclude

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that the '697 Accused Products have detection circuitry that satisfies the “coupled to” limitation in the asserted claims.

In view of the foregoing, the Commission determines to reverse the ALJ and find that Apple has proven by a preponderance of the evidence that the '697 Accused Products infringe claims 13 and 14 of the '697 patent.

ii. Technical Prong of the Domestic Industry Requirement

Samsung argues that the '697 Domestic Industry Products, including the iPhone 3GS, iPhone 4, iPhone 4S, iPad, iPad 2, and iPod Touch, operate in a manner analogous to the '697 Accused Products that implement the L-detection. *See supra* at 83 n.11. The ALJ found that the '697 Domestic Industry Products do not satisfy the technical prong of the domestic industry requirement . ID at 404-09.

Applying our construction of the “detection circuitry” limitation, however, the '697 Domestic Industry Products satisfy the technical prong of the domestic industry requirement. Accordingly, the Commission determines to reverse the ALJ’s technical prong finding with respect to the '697 patent.

iii. Validity

In its May 28, 2013 notice of review, the Commission asked the parties to address the following:

10. Assuming *arguendo* that Apple’s proposed construction of the claimed detection circuitry limitation is adopted (*see* Apple Pet. at 69-76), what record evidence shows that this limitation is disclosed or suggested in the prior art of record, including in the JP published unexamined application HII-288766 (“Kawano”) and the YP-T7J portable media player?

a. Anticipation by Japanese application HII-288766 (“Kawano”)

The ALJ found that Apple did not prove that the asserted claims of the '697 patent are anticipated by Kawano for three reasons. First, the ALJ found that Kawano does not disclose

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“detection circuitry coupled to the detect contact and the first receptacle contact to detect that the signal path is . . . a high impedance path” because there is an open circuit between the detect contact and the first receptacle contact in Kawano when the plug is removed. ID at 410. Second, the ALJ found that Kawano does not disclose “an electronic device” because Kawano’s terminal adapter is equivalent to an accessory component and does not include control circuitry. *Id.* at 414-15. Third, the ALJ found that Kawano does not disclose “a first receptacle contact disposed in the receptacle” because Kawano’s ring contact protrudes from the housing of the terminal adapter. *Id.* at 417.

Samsung argues that if Apple’s claim construction and infringement arguments are accepted, then a finding that Kawano has the “detection circuitry” limitation is warranted. SPet at 88. Samsung also argues that the ALJ erred in holding that the preamble language “an electronic device” is a limitation and that Kawano was not “an electronic device” when the camera and terminal adapter are used together. *Id.* at 88-90. Samsung further argues that the ALJ erred in requiring a contact that is 100 percent inside a receptacle based on the plain and ordinary meaning of “disposed in.” *Id.* at 91. However, even if the contact must be wholly within the receptacle, Samsung contends that Kawano satisfies the limitation. *Id.*

Applying our construction of the “detection circuitry” limitation, we find that Kawano satisfies the “detection circuitry” limitation. We also find that the ALJ did not err in holding that claim 12 requires “an electronic device” because claim 13, which depends from claim 12, expressly requires control circuitry “configured to instruct the electronic device” when to use an “accessory component.” Thus, as the ALJ found, the preamble is necessary to give meaning to the claim. ID at 413. We agree with the ALJ that Kawano’s terminal adaptor is not “an electronic device” because Kawano discloses the use of a terminal adapter that can be connected

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to a device that does not have a receptacle for a plug. In addition, the intrinsic evidence supports the ALJ's construction of the phrase "disposed in" to require that the first receptacle contact be disposed entirely in the receptacle. *Id.* at 417 (citing JX-5, FIG. 3). We also agree with the ALJ's factual finding that Kawano discloses a ring structure that is "at least partially disposed outside of the receptacle" is supported by the evidence. *Id.* (citing CX-2599C at Q30, 31; *see also* CX-721C; CX-722C; JX-31). Accordingly, we conclude that Kawano fails to disclose "an electronic device" and "a first receptacle contact disposed in the receptacle," as required by the asserted claims.

In sum, the Commission affirms the ALJ's finding that Kawano does not anticipate the asserted claims of the '697 patent.

b. Anticipation by the YP-T7J media player

YP-T7J is a media player with a line-in jack for recording audio from an external device, such as a CD player. RX-3104 at 11. The ALJ found that the YP-T7J does not anticipate the asserted claims of the '697 patent because the YP-T7J does not disclose "an accessory component" and "detection circuitry coupled to the detect contact and the first receptacle contact to detect that the signal path is . . . a high impedance path." *ID* at 419-23.

Applying our construction of the "detection circuitry" limitation, the YP-T7J satisfies the "detection circuitry" limitation. According to the ALJ, the schematic diagram of the YP-T7J illustrates that when the plug is removed from the receptacle, the detection circuitry is coupled to the detect contact, but not to the first receptacle contact, which is coupled to ground. *Id.* at 419. Samsung's expert, Dr. Russ, admits that when the plug is not present in the receptacle there is an open circuit between the detect contact and first receptacle contact. *Id.* Based on our construction of the "detection circuitry" limitation, the evidence shows that the YP-T7J discloses

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a signal path that is a high impedance path and detection circuitry electrically coupled to the contacts to detect that the signal path is a high impedance path.

We find that the ALJ erred in concluding that a CD player, which can be connected to the YP-T7J media player through the line-in jack, is not an “accessory component.” *Id.* at 421-23. The ’697 patent specification explicitly defines “an accessory component” as “any component that can be coupled to and used in conjunction with electronic device 100” and lists external audio sources as a type of accessory component. JX-5 at 3:3-14. The YP-T7J user manual states that “the YP-T7J can be connected to an external audio source [*e.g.*, a portable CD player] through a cable running from the out port / line out of the external audio source to the ENC port on the YP-T7J.” *Id.* at 421 (citing RX-3104 at 11). Samsung asserts that YP-T7J had a jack on the bottom that used a signal path created through the plug between two contacts to detect the plug like the ’697 Accused Products. SPet at 92. “That jack accepted a plug that could be connected to any audio source” including a CD player. *Id.* The YP-T7J manual discloses other accessory components such as, earphones. RX-3104 at 5, 9. We therefore conclude that the record evidence shows that the YP-T7J discloses an “accessory component.”

We agree with the ALJ's finding that the YP-T7J includes "control circuitry . . . configured to instruct the electronic device to utilize the first input/output component when a detect signal . . . has a first value, and . . . utilize the accessory component when the detect signal has a second value." ID at 425-26. The parties do not dispute that the YP-T7J discloses all other limitations in the asserted claims. Accordingly, the Commission determines to reverse the ALJ and find that Samsung has proven by clear and convincing evidence that the YP-T7J anticipates the asserted claims of the '697 patent.

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c. Obviousness

The ALJ found that Samsung failed to prove by clear and convincing evidence that the asserted claims of the '697 patent are obvious in view of Kawano, Nakajima, the YP-T7J device, the YP-K3 device, the LGY2109-0200F jack and the LGY2209-0101F jack (collectively, "SMK Devices") manufactured by SMK, and other prior art. *Id.* at 441. In particular, the ALJ found that there was no motivation to combine Kawano with Nakajima, the YP-T7J device, the YP-K3 device, or the SMK Devices. *Id.* at 429-30, 432, 433-35. Samsung asserts that the motivation to combine Kawano with other asserted prior art is "simple and straightforward: these references comprise the state of the art of earjack technology." SPet at 93. Samsung's expert, Dr. Russ' testimony regarding the general state of earjack technology assumes a motivation to combine anything within the earjack art. The ALJ correctly dismissed such testimony as insufficient to establish a *prima facie* case of obviousness, particularly where Apple's expert offered evidence to the contrary. *See, e.g.*, ID at 430; CX-2599C at Q38-39 (no motivation to combine Kawano with Nakajima or SMK Jacks), Q53-54 (no motivation to combine Kawano with YPK3), Q76-79 (no motivation to combine Kawano with Nakajima), Q87-88 (no motivation to combine Kawano with SMK Jacks).

The ALJ also found that even if the YP-T7J device is combined with either the YP-K3 device or the SMK Devices, the combination does not disclose an "accessory component" and "detection circuitry coupled to the detect contact and the first receptacle contact to detect that the signal path is . . . a high impedance path." *Id.* at 437-39. We reverse the ALJ's findings with respect to the combination of the YP-T7J device in view of the YP-K3 device or the SMK Devices to the extent that they conflict with our interpretation of the asserted claims and the prior art YP-T7J device. *See supra* at 95-96.

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In view of the foregoing, the Commission determines to affirm with modified reasoning the ALJ's finding that Samsung failed to prove by clear and convincing evidence that the asserted claims of the '697 patent are obvious.

d. Indefiniteness, Enablement and Written Description Requirements Under 35 U.S.C § 112

The ALJ found that Samsung failed to prove by clear and convincing evidence that the asserted claims of the '697 patent are invalid under either section 112, ¶ 1 or ¶ 2. ID at 445-46. Samsung contends that claim 12 is invalid for failing to meet the written description and enablement requirements of section 112, ¶ 1 because there is an inadequate disclosure of a "high impedance" path in the specification of the '697 patent. SPet at 95-96. Samsung also contends that the limitation "high impedance path" in claim 12 is indefinite under section 112, ¶ 2 because there is no explanation of the bounds of "high" or what is a "high impedance" path. *Id.* at 95. Because we discern no error in the ALJ's findings with respect to section 112, the Commission determines to affirm the ALJ's findings with respect to section 112 in their entirety. ID at 445-46.

G. Economic Prong of the Domestic Industry Requirement

The ALJ found that the evidence shows that Apple has satisfied the economic prong of the domestic industry requirement under section 337(a)(3)(C) based on its investments in engineering and research and development ("R&D") in support of products that practice the D'757, D'678, '949, '922 and '501 patents. *Id.* at 450, 455. The ALJ stated that if Apple's products are found to practice the '697 patent, then he would find, for the same reasons as discussed with regard to the other asserted patents, that Apple satisfies the economic prong of the domestic industry requirement. *Id.* at 458 n. 29.

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Samsung challenges two aspects of the ID's determination that Apple satisfies the economic prong of the domestic industry requirement. First, Samsung alleges that the ALJ improperly credited investments in discontinued products. SPet at 96. Except for the iPhone 3GS, Samsung alleges that all of Apple's other Domestic Industry Products were discontinued before Apple filed its complaint. *Id.* Moreover, Samsung claims that there is no evidence of any ongoing activities related to the discontinued products. *Id.* at 97. Second, Samsung alleges that Apple did not show the requisite nexus between the Domestic Industry Products and Apple's domestic investments. *Id.* at 98-99. In particular, Samsung argues that insufficient evidence exists to allocate Apple's investments in its iOS operating system to specific models in the Apple product lines. *Id.*

Section 337(a)(3)(C) states that "an industry in the United States shall be considered to exist if there is in the United States . . . substantial investment in . . . exploitation, including engineering, research and development, or licensing." The text does not define the term "exploitation," however, the Commission has interpreted "its exploitation" in section 337(a)(3)(C) to refer to "an investment in the exploitation of the asserted patent." *Multimedia Display*, Comm'n Op. at 7; *see also Certain Coaxial Cable Connectors and Components Thereof and Products Containing Same*, Comm'n Op. at 48 (Mar. 2010) (reciting Section 337(a)(3)(C) as "exploitation [of the patent], including engineering, research and development, or licensing") (addition original). Commission precedent also establishes that "a domestic industry can be found based on complainant's past activities in exploiting the [asserted] patent." *Wind Turbines*, Comm'n Op. at 25 (emphasis original). There is no question that the evidence shows that Apple exploited the asserted patents through substantial investment in engineering and R&D related to its discontinued products, which the ALJ found practiced the asserted patents. *See* ID at 456-58.

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The same reasoning in *Wind Turbines* would apply with respect to Apple's past activities in this investigation in that a domestic industry can be found based on Apple's undisputed past activities in exploiting the asserted patents. *Wind Turbines*, Comm'n Op. at 24-26 (economic prong satisfied where complainant continued to operate and service wind turbines after discontinuing manufacturing); see also *Certain Electronic Devices, Including Mobile Phones, Portable Music Players, and Computers*, Inv. No. 337-TA-701, Order No. 58 at 2, 5-7 (Nov. 18, 2010) ("*Electronic Devices, Including Mobile Phones*") (unreviewed) (economic prong satisfied over respondent's argument that complainant had discontinued sales of products that practiced three asserted patents); *Certain Kinesiotherapy Devices and Components Thereof*, Inv. No. 337-TA-823, Comm'n Op. at 30 (June 17, 2013) (expenses relating to the original domestic industry product found relevant to domestic industry even though the product was discontinued prior to the filing of the complaint).

Samsung ignores the ALJ's finding that CX-19C not only shows Apple's R&D investments in its discontinued products, but also "in further developing its existing products, including iPhone, iPad, Mac and iPod hardware." ID at 450-51 (quoting CX-2). We reproduce below the first two pages of CX-19C showing Apple's hardware development expenses for the iPhone from 2006 through the first quarter of 2012. Other tables in CX-19C and CX-20C show Apple's domestic development expenses for the iPod touch, iPad and iOS product lines.

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Id. at 2. With respect to Apple's investments in iOS, the ALJ found each and every Domestic Industry Product uses either version 5.0 or 3.0 of iOS. ID at 457. We view the evidence of record, including the data provided in CX-19C and CX-20C, as a dispositive showing that Apple

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was making substantial domestic investments in exploiting its asserted patents when the complaint was filed in July 2011.

Accordingly, the Commission determines to affirm the ALJ's economic prong analysis and finding that Apple has satisfied the economic prong of the domestic industry requirement under section 337(a)(3)(C) based on its investments in engineering and R&D with respect to the D'757, D'678, '949, '922 and '501 patents. The Commission also determines to reverse the ALJ's economic prong analysis with respect to the '697 patent and find that Apple has satisfied the economic prong of the domestic industry requirement under section 337(a)(3)(C) based on its investments in engineering and R&D with respect to the '697 patent.

H. Other Issues

The Commission determines to correct the following typographical errors in the ID as set forth below:

- On pages 5-7 of the ID, replace “Accused Apple Products” with “Accused Samsung Products”;
- On page 6 of the ID, replace the accused product for D618,678 “Focus S (SCH-I937)” with “Focus S (SGH-I937)”;
- On page 188 of the ID, replace “Apple knew or should have known” with “Samsung knew or should have known” that its actions instructing and demonstrating to end users how to use the Browser and Gallery applications actively encouraged them to use the ’949 Accused Products in a manner that infringes claims 11-16 of the ’949 patent;
- On page 283 of the ID, replace all occurrences of “the ’697 patent” with “the ’922 patent”; and

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- On page 460 of the ID, correct item 25 to state that “Samsung induces others to infringe claims 29-30 and 33-35 of the ’922 patent.”

I. Samsung's Design Around Products

The ALJ determined that he should adjudicate whether Samsung's design around products infringed the '949, the '922, the '501, and the '697 patents.

The design around products are within the scope of this investigation, have been imported into the United States or sold in the United States, were the subject of extensive discovery as well as testimony during the evidentiary hearing in this investigation. Thus, I find that infringement of Samsung's design around products should be adjudicated as part of this Initial Determination.

Id at 11 (citing *Certain Flash Memory Circuits and Products Containing Same*, 337-TA-382, Comm’n Op. (June 9, 1997) (“*Flash Memory*”)). The ALJ found that Samsung’s design around products do not infringe the four asserted utility patents. *Id.* at 10-12, 163, 233-34, 310, 383-84.

Apple argues that the ALJ's decision to adjudicate whether Samsung's design around products infringed the '949, the '922, the '501, and the '697 patents is fundamentally unfair to complainants because it forces complainants to either shift resources away from litigating infringement of the Accused Products or else face a finding of noninfringement for failure of proof as to the design around products. APet at 81. Apple specifically makes two arguments allegedly illustrating the alleged fundamental unfairness in the ALJ's decision. First, Apple argues that the threat imposed by design around products is often speculative because the respondent may not yet be importing those products. Second, Apple argues that complainants may be forced to make the difficult decision of how to allocate important resources based on imperfect information and little time for analysis.

We reject both of Apple's unfairness arguments. The ALJ specifically found that the evidence shows that the design around products are fixed and have been imported or sold in the United States. ID at 10. Other than attorney argument, Apple cannot refute this showing. *See*

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APet at 84. With regard to Apple’s second argument, even if Apple is forced to allocate its resources wisely, it is not unfair to Apple as Samsung would have to do the same. When confronted with Samsung’s evidence of noninfringement, Apple had an obligation to either present evidence of infringement or withdraw its allegations concerning these products, but it did neither. *Flash Memory*, Comm’n Op. at 19-25. We note that the consideration of design around products during the course of the proceedings before the ALJ provides predictability in enforcement of the order by U.S. Customs and Border Protection (“CBP”).

Apple also argues that it is the complainant that determines what issues are to be adjudicated in an investigation, not the respondent. APet at 80 (citing *Certain MEMS Devices and Products Containing the Same*, Inv. No. 337-TA-700, Order No. 8, at 6-7 (July 12, 2010) (“*MEMS Devices*”). In *MEMS Devices*, the ALJ determined that even though the Notice of Investigation (“NOI”) might have encompassed design around processes, because the complainant did not accuse those processes, determining whether they infringed would yield an improper advisory opinion. *Id.*

The facts in this investigation are closer to *Flash Memory* than they are to *MEMS Devices*. Apple admits that Samsung argued in its pre-hearing brief that it redesigned features of certain products to avoid the asserted utility patents. APet at 77. According to Samsung, Apple filed a motion to compel expansive product discovery. SResp at 46-47. Apple’s motion to compel forced Samsung to produce all documents and information relating to portable electronic digital media devices, including its design around products. *Id.* Apple also does not dispute that there was substantial discovery taken on the design around products, that its expert inspected the design around products as well as the relevant source code and took depositions of the relevant Samsung witnesses. *See* ID at 10. Apple does not deny that its experts testified at the

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evidentiary hearing regarding the design around products. *Id.* (citing *e.g.*, Hr'g Tr. at 930:16-931:13, 931:17-932:6.). Yet, at the hearing and despite Samsung's cross-examination on the issue of design around products, Apple made a tactical decision not to present any direct or affirmative evidence on this issue. *See, e.g., id.* at 233-34. Because Apple presented almost no evidence on this issue at the hearing, the ALJ credited the testimony of Samsung's expert and fact witnesses concerning the operation of the design around products and whether they infringed. *See* IAResp at 22; ID at 163, 233-34, 309, 383-84. Despite now arguing that the ALJ inappropriately adjudicated Samsung's design around products, Apple asked for a limited exclusion order in its post-hearing reply brief that covers all products within the scope of the NOI. *Id.* at 11. The ALJ determined that Apple did not seem to want the design around products adjudicated, but still wanted to be able to argue that they fall within the scope of any exclusion order that may issue. *Id.* We agree with the ALJ that Apple, having requested and received discovery as to these redesigned products, it was proper for the ALJ to issue a determination as to infringement. *See Certain Digital Televisions and Certain Products Containing Same and Methods of Using Same*, Inv. No. 337-TA-617, Final Initial Determination, at 55-60 (Nov. 17, 2008) (adopted by the Commission) (adjudicating respondents' work around products after the products were put in issue).

For the foregoing reasons, we agree with the ALJ that the design around products were put in issue in this investigation, and Apple had the opportunity to present evidence of infringement. As a result, the ALJ properly adjudicated that Samsung's design around products do not infringe the asserted utility patents. The Commission, therefore, determines to affirm the ALJ's findings regarding Samsung's design around products. *Id.* at 10-12, 163, 233-34, 310, 383-84.

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J. Remedy, Public Interest, and Bonding

i. Remedy

We have concluded above that Apple has shown a violation of section 337 based on infringement of the '501 and the '949 patents. Under the statute, if the Commission determines that a violation has occurred, “it shall direct that the articles concerned . . . be excluded from entry into the United States, unless, after considering the effect of such exclusion upon the public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers, it finds that such articles should not be excluded from entry.” 19 U.S.C. § 1337(d)(1).

The Commission may also issue cease and desist orders to prevent further sale or distribution of infringing articles within the United States, after consideration of these public interest factors. *See* 19 U.S.C. § 1337(f)(1). The Commission generally issues cease and desist orders “when there is a commercially significant amount of infringing imported product in the United States that could be sold so as to undercut the remedy provided by an exclusion order.” *See, e.g., Certain Laser Bar Code Scanners and Scan Engines, Components Thereof and Products Containing Same*, Inv. No. 337-TA-551, Comm’n Op. at 22 (June 14, 2007).

The ALJ recommended that, if the Commission finds a violation of section 337, the Commission should (1) issue a permanent limited exclusion order (“LEO”) against SEC, SEA, and STA; and (2) issue cease-and-desist orders (“CDOs”) against SEA and STA.

The Commission requested comments from the parties, government agencies, and interested members of the public with respect to remedy and the public interest. The Commission received responses from Apple, Samsung, the IA, and the following: Americans for Job Security; Associated Carrier Group; Capital Policy Analytics; Congresswoman Eva M.

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Clayton; Congressmen Hakeem S. Jeffries and Henry C. Johnson, Jr.; Congressmen Bill Pascrell, Jr., Hank Johnson, Albio Sires, Dan Maffei, Terri Sewell, and Steve Israel; Congressman Pete Sessions; CTIA – The Wireless Association; Mr. Dennis C. Vacco, Esq.; Digital Liberty and Property Rights Alliance; Google, Inc.; Health IT Now.org; Hispanic Leadership Fund; Homecare Homebase, LLC; Institute for Policy Innovation; James Valley Telecommunications; Texas State Senator Ken Paxton; Texas State Senator Kirk Watson; The LIBRE Initiative; National Black Chamber of Commerce; National Grange; The Newborn Coalition; Revol Wireless; Senator Robert Menendez; Sprint Spectrum, L.P.; Taxpayers Protection Alliance; Ting Wireless; Congressman Trent Franks; American Agri-Women *et al.*; and United States Cellular Corporation.

The Commission has carefully considered all comments received in arriving at the determinations reflected in this opinion. As discussed in more detail below, we have determined that a LEO should be entered barring entry of Samsung's articles that infringe claims 1, 4-6, 10, and 17-20 of the '949 patent or claims 1-4 and 8 of the '501 patent. In addition, we find that CDOs should be entered against STA and SEA barring further sale and distribution of infringing products in the United States. Samsung's adjudicated noninfringing design arounds for the '949 and '501 patents (*see supra* 103-105; ID at 10-12) and any Samsung electronic digital media devices incorporating these noninfringing redesigns are expressly exempted from the scope of the remedial orders. The Commission has further determined that a delay in the effective date of the remedial orders is not warranted based on the record of this investigation.

The parties agree that the Commission should not issue a CDO against SEC because it does not conduct business activities within the United States and has no inventory of accused products in the United States.

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Samsung contends that the Commission should also not issue a CDO against STA because Samsung's "just-in-time" manufacturing and distribution for mobile devices does not permit the existence of commercially significant inventories in the United States. SInitRemedySub at 83-84. Samsung contends that all of the merchandise flowing through STA's distribution centers in the United States is already presold to customers such that there is no domestic inventory available for STA to sell. *Id.* at 85. With respect to SEA, Samsung argues that a CDO is not warranted because SEA no longer sells the accused tablet product cited in the RD. *Id.* at 87-88.

We find that the record evidence before the Commission supports the ALJ's conclusion that STA and SEA maintain commercially significant inventories of accused products in the United States. Commission precedent does not require a precise accounting of inventories to justify issuance of a CDO. *See* RD at 6. STA's certified financial statements show that, as of September 11, 2011, STA held inventories valued at over \$550 million. CX-78C at 19. The notes to these statements describe the inventories as "representing mostly wireless terminal phones." *Id.* at 12. In addition, STA's Chicago distribution center regularly receives shipments of infringing products comprising thousands of units valued at hundreds of thousands of dollars. CX-116C-CX-118C. STA's 2012 business plan shows actual inventories of wireless terminal phones for 2010 valued at more than \$271 million and held for nearly two weeks, and forecasted inventory of wireless terminal phones for 2011 valued at more than \$220 million and held for more than one week. CX-79C at 18; *see also* CX-2554C, Sheppard Dep. at 125:22-128:17. Finally, SEA cannot avoid a CDO by discontinuing a product while the investigation was pending. ARRemedySub at 34-35.

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ii. Public Interest¹⁴

Section 337 defines a two-stage process for the Commission to act upon a complaint. The Commission first “determines, as a result of an investigation under this section” whether “there is a violation of this section.” *See* 19 U.S.C. §§ 1337(d)(1), (f)(1). If the Commission determines a violation has occurred, the Commission “*shall* direct that the articles concerned . . . be excluded from entry into the United States unless after considering *the effect* of such exclusion” on four public interest factors the Commission determines a remedy should not issue. *Id.* (emphasis added). Those factors are (1) the public health and welfare; (2) competitive conditions in the U.S. economy; (3) the production of competitive articles in the U.S.; and (4) U.S. consumers. *Id.* When the circumstances of a particular investigation require, the Commission has denied an exclusionary remedy or has tailored its relief in light of the statutory public interest factors. *See, e.g., Spansion, Inc. v. Int’l Trade Comm’n*, 629 F.3d 1331, 1360 (Fed. Cir. 2010) (discussing historical application of the public interest factors); *Certain Personal Data*, Inv. No. 337-TA-710, Comm’n Op. at 83 (delaying the effective date of an exclusion order based on competitive conditions in the U.S. economy); *Certain Baseband Processor Chips and Chipsets, Transmitter and Receiver (Radio) Chips, Power Control Chips*,

¹⁴ Commissioners Pinkert and Broadbent concur with the Commission majority in regard to the application of the public interest factors, including its denial of the requested delay in enforcement, explaining as follows their divergence from the majority’s analysis. Notwithstanding that there are viable substitute products for the infringing devices, the Commission should weigh in its consideration of the public interest the likely impact of exclusion on the range of choice available to consumers. The existence of substitutes possessing similar – although by no means identical – functionalities does not necessarily indicate that consumers’ desire for quality and variety can be satisfied in the absence of infringing devices, particularly in a rapidly evolving, technologically driven, market like today’s smartphone market. Nevertheless, given the evidence available in the current phase of the investigation regarding the volume of infringing devices, it is unlikely that consumers will be harmed significantly by exclusion.

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and Products Containing Same, Including Cellular Telephone Handsets, Inv. No. 337-TA-543, USITC Pub. No. 4258, Comm'n Op., 148-54 (October 2011) (grandfathering certain existent mobile telephone models from the scope of the exclusion order); *Certain Automated Mechanical Transmission Systems for Medium-Duty and Heavy-Duty Trucks, and Components Thereof*, Inv. No. 337-TA-503, Comm'n Op. at 5 (May 9, 2005) (exempting from the scope of the exclusion order replacement parts for existing truck transmissions); *Certain Sortation Systems, Parts Thereof, and Products Containing Same*, Inv. No. 337-TA-460, Comm'n Op. at 18-20 (Feb. 19, 2003) (exempting from the scope of the exclusion order replacement parts for a UPS hub facility).

With this context in mind, we turn to the particular facts at issue in this investigation. Here, there are nearly 50 adjudicated devices that infringe the '949 and '501 patents, but only two of the devices will continue to be sold in the United States as of the date of the issuance of Commission's remedial orders. *See* ID at 5-7; SInitRemedySub. at 10, Apps. E, F (showing that the only infringing Samsung models that continue to be sold as of August 2013 are Galaxy S II (SGH-T989) and Illusion (SCH-I110)). In addition, there are thirteen models that have been redesigned and adjudicated to not infringe the '949 patent, and one redesigned model – Droid Charge SCH-I510 – adjudicated to not infringe the '501 patent. *See* ID at 11-12; *supra* at 103-105. Moreover, the smartphones have a broad range of price points/features, which provide a diverse product base that spans from

and above in 2012. *See*

SInitRemedySub, Exh. A-12.

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In its May 28, 2013 notice of review, the Commission asked the parties, interested government agencies, and other interested persons to address the following:

1. How would remedial orders barring the entry and further distribution of the Samsung articles alleged to infringe the asserted claims of the Asserted Patents affect the public interest as identified in 19 U.S.C. §§ 1337(d)(1) and (f)(1)?

Samsung argues that issuance of an exclusion order will adversely impact (1) competitive conditions in the U.S.; (2) U.S. consumers; and (3) the public health and welfare.

SInitRemedySub at 21-57. Apple and the IA disagree. AInitRemedySub at 18-27; IAINitSub at 27-30. As noted above, a number of third parties submitted public interest statements in this investigation arguing against issuance of a remedy. Those responses fall into three general categories, namely, the adverse impact on: (1) public health and welfare;¹⁵ (2) competitive conditions in U.S. and/or U.S. consumers;¹⁶ and (3) clarity regarding scope of an exclusion order directed to design patents.¹⁷ As discussed below, we find that the facts relating to the public

¹⁵ The following submissions were received addressing the public health and welfare: The Newborn Coalition; National Grange; Health IT Now.org; The LIBRE Initiative; and Homecare Homebase, LLC.

¹⁶ The following submissions were received addressing the impact of an exclusion order on the competitive conditions in the US and/or impact on U.S. consumers: CTIA – The Wireless Association; Institute for Policy Innovation; Hispanic Leadership Fund; Congresswoman Eva M. Clayton; Texas State Senator Ken Paxton; Texas State Senator Kirk Watson; Congressman Pete Sessions; Google; U.S. Cellular Corp.; Sprint Spectrum, L.P.; National Black Chamber of Commerce; Congressmen Bill Pascrell, Jr., Hank Johnson, Albio Sires, Dan Maffei, Terri Sewell, and Steve Israel; James Valley Telecommunications; Ting Wireless; Associated Carrier Group; The LIBRE initiative; Revol Wireless; and Taxpayers Protection Alliance.

¹⁷ The following submissions were received addressing the impact of issuing an exclusion order covering design patents and seeking clarity regarding such an order: Congressmen Trent Franks, Hakeem Jeffries and Henry Johnson; Digital Liberty; Senator Robert Menendez; and Sprint. The Commission has not found a violation based on Apple’s design patents. Therefore, those patents are not the subject of the exclusion order.

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interest do not counsel against issuance of a limited exclusion order or cease and desist order in this investigation.¹⁸

a. Public Health and Welfare

Samsung contends that the public health and welfare would be adversely impacted by the exclusion of Samsung's products because modern technology has made the internet an essential need in America, as a means to *inter alia* find employment and healthcare. SInitRemedySub at 39-44. Also, Samsung argues that the exclusion of Samsung's mobile devices will adversely affect technological healthcare initiatives and growing markets for mobile applications and accessories, as Samsung has increased its investment in healthcare research and development (such as partnering with Boston Scientific in collaboration with The USC Center for Body Computing to develop a Subcutaneous Implantable Cardiovascular Defibrillator). *Id.* at 47-55. Further, Samsung argues that the exclusion of Samsung products will exacerbate the "digital divide" and affects the underserved populations with limited access to mobile connectivity. *Id.* at 35. According to Samsung, its prominence in the smartphone market bridges the "digital divide" by serving as a tool for keeping tablets and mobile phones affordable and truly broadband. *Id.* at 46-47. Samsung argues that students, teachers, and technological education initiatives will be adversely affected because programs such as the Samsung Smart School, where teachers communicate via interactive tablets and whiteboards, will be affected. *Id.* at 55-57.

¹⁸ No one has argued that remedial orders in this investigation will affect "the production of like or directly competitive articles in the United States." *See* AInitRemedySub at 20 (citing CX-2557C at 52:20-23, 53:10-19, 55:20-56:13, 64:14-65:11; CX-2553C at 70:4-15, 104:21-105:17; *see also* Samsung Public Interest Comments at 3 ("Samsung's devices, like others in the market, are manufactured abroad.")). No competitive articles are now produced in the United States, and exclusionary relief in this investigation is not likely to change that fact. Accordingly, we find that this factor does not counsel against the issuance of an exclusion order.

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Several third parties submit that an exclusion order directed to Samsung products will adversely impact the health and welfare in the U.S. *See supra* at 111 n. 15. For example, The Newborn Coalition believes that Samsung's 4G devices are allowing mobile healthcare technology to help save lives and improve patient care for newborns and mothers across the country, and in particular, in rural areas of the United States. Health IT Now submits that an exclusion order would negatively impact the health and welfare of Americans, because mobile healthcare is changing the way medical professionals and patients engage in care thanks to advancements in broadband capabilities, *e.g.*, doctors are relying upon smartphones and tablets, which are of particular use to doctors who are in underserved communities.¹⁹ In addition, Homecare Homebase, LLC ("Homecare") contends that the Android operating system is the optimal system for this software, which is extremely important to giving daily service to more than 190,000 homebound patients (78% of the caregivers who utilize the Homecare platform daily run the Homecare software on a Samsung mobile device). Homecare argues that exclusion of one of the most popular Android devices from the U.S. would have a major impact on the availability of its services and disrupt the care provided to the patients whose caregivers depend on Homecare.

Apple asserts that Samsung's arguments that remedial orders will negatively affect public health and welfare are without merit because any public health or welfare functions of Samsung's phones can be supplanted by other phones, and the Commission has previously rejected virtually all of the same arguments, advanced by HTC in *Certain Personal Data*, Inv.

¹⁹ The LIBRE Initiative also asserts that Latino and minority communities use wireless broadband devices to access critical medical resources like health records, monitor blood, and contact emergency services. Similarly, National Grange states that a broad exclusion order will negatively impact the health of rural residents because wireless connection, in particular 4G, allows users to access myriad social and government healthcare applications.

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No. 337-TA-710. ARRemedySub at 15. The IA agrees with Apple that there is no information provided by Samsung that the exclusion of Samsung products would be contrary to the public health and welfare. IAREplySub at 18. In addition, the IA states that the submissions by organizations who are concerned about the effect on end users do not consider the possibility that other mobile phone providers would take advantage of the effect of an exclusion order and increase their product lines accordingly. *Id.* at 19. The IA submits that while the entities in this category express legitimate potential concerns, relating to the mobile phone market as a whole, they do not actually show that relief in this investigation would be contrary to the public interest. *Id.*

The Commission agrees with Apple and the IA. The evidence provided by the parties and commenters to the Commission shows that the exclusion of Samsung products found to infringe the '949 and '501 patents in this investigation would not adversely impact the public health and welfare. The record before the Commission provides evidence of numerous noninfringing alternatives – both Android and non-Android based phones – for consumers that rely on such devices and wireless broadband service for medical resources and healthcare monitoring. Further, we observe that the remedy issued today relates to future importation and sales by Samsung of infringing devices only and does not implicate the use and enjoyment of Samsung devices already in the hands of consumers or Samsung's broad product offerings that are noninfringing. The evidence shows that numerous mobile device models are introduced annually by Samsung and other mobile device suppliers that offer new and wide-ranging features of interest to the health care industry, medical providers, and consumers of these health care services and medical resources. The Commission recognizes the importance of wireless broadband services to access medical resources and, particularly, in rural communities.

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However, the evidence, data, and information provided to the Commission by the parties and commenters indicate that the needs of such users can be met by noninfringing alternatives, particularly given the limited volume and market share of Samsung's infringing devices that continue to be available for sale in the United States at this time that would be impacted by the issuance of the remedial orders. Thus, the Commission finds that this factor does not counsel against issuance of remedial orders under the facts present in this investigation.

b. Competitive Conditions in the U.S. Economy and Harm to U.S. Consumers

Samsung argues that excluding Samsung mobile devices would create a shortfall in the United States market. SInitRemedySub at 6. Samsung contends that the following will negatively impact the competitive conditions in the U.S:

1. Approximately smartphones were sold in the United States in 2012, of which were made by Samsung (*id.*);
2. The other mobile device manufacturers that produce Android-based smartphones would need to ramp up capacity by more than each to supply demand if Samsung's mobile devices were eliminated from the market and the timing would be long (6 months lead time plus 3 to 4 months for FCC and carrier certification) (*id.*);
3. Manufacturing capacity is limited, time consuming, and costly to expand, *i.e.*, while maximizing capacity utilization is the goal of every manufacturer, sudden demand spikes make this difficult and outsourcing might be quicker but its more expensive (*id.* at 12); and
4. Component lead times and shortages will delay mobile device manufacturers' ability to increase production (*id.* at 12-19).

In light of these asserted facts, and others, Samsung contends the competitive conditions in the United States would be negatively affected by the exclusion of Samsung products because the U.S. market is a "two-horse" race between Apple and Samsung. *Id.* at 30-31. Samsung contends that this exclusion would negatively impact the wireless carriers, who would lose significant portions of their product offerings. *Id.* at 31-32. In addition, according to Samsung, the

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exclusion would negatively impact competitive conditions among operating systems due to customers' loyalty to specific platforms. *Id.* at 33-34.

Samsung also contends that an exclusion order against its products would harm U.S. consumers. Samsung argues that removing all Samsung products from the market would remove the second largest supplier of smartphones and of the U.S. smartphone market. *Id.* at 21. Samsung notes that it offers a variety of prices and features to appeal to customers and to meet customers' needs versus Apple's restriction on any changes. *Id.* at 23. Samsung argues that the enterprise community would be negatively impacted by the exclusion of devices that support Samsung's SAFE and KNOX because of Samsung's ability to provide secure mobile devices for those bringing their own phones to work. *Id.* at 25. Samsung also argues that if it were eliminated entirely from the U.S. market, the Android community would be negatively impacted, which would then impact consumers because Samsung "leads the Android ecosystem." *Id.* at 27. The exclusion of Samsung mobile devices based on alleged infringement by non-core features harms consumers because the primary effect of a ban excluding such products would be to deprive consumers of the lawful, noninfringing features of the accused products that drive consumer demand for them. *Id.* at 27.

In addition, several third parties submit that an exclusion order directed to Samsung's products would adversely impact competitive conditions in the United States and/or harm U.S. consumers. *See supra* at 111 n. 16. Generally, the submissions note that broadband wireless infrastructure is a critical U.S. industry to be protected. *See CTIA – The Wireless Association* at 1; *National Black Chamber of Commerce* at 1. Further, the expansion of wireless broadband infrastructure is a key policy goal of the Obama Administration to help drive U.S. innovation and

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job growth, and smartphones are principal devices that do that. CTIA – The Wireless Association at 7.

In addition, the Institute for Policy Innovation asserts that an exclusion order banning all Samsung products would improperly favor Apple because it will decrease existing competition in the cellphone and tablet markets which means a shortage of 4G devices, fewer smartphones and broadband access plans, and increases in price. Institute for Policy Innovation at 1-2. United States Cellular Corporation²⁰ contends that Samsung handsets make up approximately 27% of the total handsets sold by it, and argue that delay and disruption of its supply of Samsung products as a result of an imprecise exclusion order could have a deleterious effect on its business and the market as a whole. United States Cellular Corp. at 3. Ting Wireless,²¹ another carrier, contends that a broad remedy risks substantial harm to its business and the innovations that it seeks to bring to the industry and to consumers. Ting Wireless at 2. Ting alleges that it would face significant hardship in sourcing alternative devices since it only supplies two non-Samsung devices and at least five Samsung devices. *Id.* at 2-3. Lastly, the Associated Carrier Group²² contends that Samsung supplied more than 60% total market share among its members' sales; and as such it could take a long time to replace the Samsung devices. Associated Carrier

²⁰ U.S. Cellular Corp. owns, operates, and invests in wireless markets throughout the U.S., providing wireless telecommunications services to approximately 5 million customers over 23 states.

²¹ Ting Wireless is a 2012 nationwide wireless communications company that provides customers with 3G and 4G LTA data service as an alternative to traditional prepaid and postpaid carriers.

²² The Associated Carrier Group was formed in 2005 as a national coalition of 36 wireless carriers serving more than 4 million customers in rural and traditionally-underserved markets.

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Group at 2. Revol Wireless²³ makes a similar contention arguing that given the size of the market for Samsung mobile devices, Revol is concerned about replacements. Revol Wireless at 2.

Other potential impacts on the competitive conditions in the United States that are highlighted by some of the submissions include: (1) the importance of wireless connectivity to certain groups and organizations, as well as rural locations;²⁴ and (2) the extent of the U.S. employment and activities in the U.S. relating to Samsung's manufacture and sale of its products in the U.S.²⁵

Apple contends that an exclusion order is not contrary to the competitive conditions in the U.S. or harmful to U.S. consumers. Apple states that Samsung's position that supply cannot meet the demand is unsupported, and in fact, Samsung has the ability to supply sufficient noninfringing devices to avoid any shortfall. ARRemedySub at 1-2. In particular, Apple notes that Samsung's design-around contention undermines its public interest argument because, since it has developed and implemented redesigned features to avoid infringing Apple's asserted utility patents, there is no reason why any long lasting shortfall should occur. *Id.* at 5-6. Further, Apple argues that Samsung's competitive conditions arguments fail to account for the significant number and breadth of competing mobile device suppliers in the U.S., undercutting Samsung's

²³ Revol Wireless serves over 150,000 customers in Ohio, Indiana, and Northwestern Pennsylvania and offers smartphones and feature phones with a variety of no contract, unlimited usage voice and data plans.

²⁴ See submissions from: Hispanic Leadership Fund; Congresswoman Eva M. Clayton; National Black Chamber of Commerce; The LIBRE Initiative.

²⁵ See submissions from: Texas State Senator Ken Paxton; Texas State Senator Kirk Watson; Congressman Pete Sessions.

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argument that remedial orders against its infringing digital media devices will negatively impact competition between and among mobile device manufacturers. *Id.* at 7-10.

Similar to Apple, the IA rejects Samsung's assertion of any supply issue that would result from an exclusion order barring the infringing products in this investigation. The IA contends that all Samsung has established is that it *may* be a challenge to meet the demand for Android-based smartphones and such potential problems are not sufficient to preclude relief in the investigation. IAREplySub at 16-17. The IA further argued that Samsung did not provide any information suggesting that consumers would not simply utilize other Android based telephones and take advantage of other choices and applications. *Id.* at 17. Lastly, the IA disagrees with Samsung's contention that there would be a negative impact on conditions of competition because mobile devices can factor into a consumer's choice of wireless providers and because of brand loyalty. The IA asserts that the availability of specific mobile device models is only one factor of many that goes into a consumer's choice of wireless provider and states that Samsung has not provided an explanation of how mobile phones from other Android based mobile phone providers would factor into alleged market share. *Id.* at 17-18.

The Commission has considered all the submissions and finds that the facts in this investigation do not demonstrate that issuance of the remedial orders would adversely impact the competitive conditions in the U.S. and/or U.S. consumers. Samsung's position that the public interest factors favor non-issuance is founded on the assumption that excluding all Samsung smartphones and tablets would reduce the available supply and hurt consumer choice. In view of the evidence, data, and information submitted by the parties and commenters and our findings, Samsung's position fails to bear up to scrutiny. Namely, it is undisputed that the infringing products are highly competitive with those of numerous alternative smartphone manufacturers

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serving the United States. *Id.* at 17-19; ARRemedySub at 7-10. Indeed, as the IA noted, no evidence suggests that consumers would not utilize other smartphones and mobile devices, including noninfringing Android based devices offered by Samsung and other suppliers, to take advantage of numerous features, choices, and applications. Furthermore, Samsung's arguments regarding supply are based largely on assumptions with almost no support provided. The absence of actual evidence of likely harm to competition and consumers, in view of the limited volume and market share of the infringing devices that remain on the market today and adjudicated redesigns as to the '949 and the '501 patents, indicates that the likely effect of the Commission's remedial orders on competitive conditions in the United States and U.S. consumers is minimal.

As for many of the third-party submissions, there is no question that some impact may be felt as a result of the remedial orders; however, the magnitude is not well-documented. The evidence of record indicates that consumers will continue to have broad choices in Samsung smartphones, including the adjudicated redesigned models and all new Samsung models that incorporate the redesigns, other Samsung noninfringing models, non-Samsung Android smartphones, and non-Android smartphones. Further, in assessing competitive conditions in the U.S. economy and harm to the U.S. consumer, the appropriate standard is not that no remedy should issue if every consumer cannot obtain the exact device desired that was found to infringe the patents at issue. Rather, the impact is assessed in the aggregate and consideration is given to whether there are reasonable substitutes for the devices subject to the exclusion order in terms of features, price points, and other pertinent factors. We also observe that the Commission's remedial orders in this investigation are not tantamount to removing all Android smartphones or even all Samsung smartphones from the U.S. market. The orders extend only to certain Samsung

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products that infringe the '949 or '501 patents, and not to Samsung products that incorporate the adjudicated noninfringing redesigns or products of other Android smartphone manufacturers.

As we have stated above, the Commission's public interest duty in this investigation is to consider "the effect" of remedial orders that would bar the entry, sale, and distribution of articles that infringe the '949 and the '501 patents. *See* 19 U.S.C. §§ 1337(d)(1), (f)(1). We have fulfilled that duty by analyzing the evidence, data, and information submitted with respect to the demonstrated effect that barring the infringing Samsung products at issue would have on (1) the public health and welfare; (2) competitive conditions in the U.S. economy; (3) the production of competitive articles in the U.S.; and (4) U.S. consumers. As we have noted above, based on the submissions that the Commission received and the evidence in the record, the effect of the remedy we order today will not be unduly adverse to the four public interest considerations enumerated in section 337.

c. Tailoring the Remedy

In its May 28, 2013 notice of review, the Commission asked the parties, interested government agencies, and other interested persons to address the following:

2. In what ways, if any, should a remedy with respect to infringement of one or more of the Asserted Patents be specifically tailored to avoid harm to the public interest, as identified in 19 U.S.C. §§ 1337(d)(1) and (f)(1)?

Samsung requests that any exclusion order issued by the Commission should contain the following limitations: (1) to the extent it is based on an asserted design patent, it should specifically identify all excluded products, or, alternatively, provide detailed guidance to CBP on how to determine which products are covered;²⁶ (2) it should include a repair and service

²⁶ Several commenters also expressed concerns that CBP would need guidance in enforcing any order, especially as it would pertain to design patents. *See, e.g.,* Sprint Spectrum

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exemption; (3) it should not include components; and (4) it should include a certification provision. In addition, Samsung requests that the Commission delay the effective date of the exclusion order by nine months for mobile phones affected by the order. SInitRemedySub at 58, 82.

Samsung's first request is moot because the Commission finds that Apple has not proven a violation with respect to Apple's design patents, the D'678 and D'757 patents. *See supra* at 6-23.

Samsung requests an exemption for repair and service to allow the importation of refurbished articles for use as a replacement for an identical model that was imported prior to the date of the order. Such an exemption, Samsung argues, would prevent disruptions to third parties such as Sprint, Boost Mobile, Best Buy, Virgin Mobile, and their customers. Devices returned to Samsung by U.S. customers are sent to Mexico for evaluation and repair and refurbished devices are returned to the United States for use as replacements for such returned devices. Apple does not object to an exemption for service and repair for a period of two years after the remedy orders issue in this investigation. ARRemedySub at 31. The IA also supports this exemption. The Commission has previously granted an exemption from its remedial orders for service and repair of existing devices to prevent harm to innocent third parties and U.S. consumers who have purchased infringing goods. *See Certain Personal Data and Mobile Communications Devices and Related Software*, Inv. No. 337-TA-710, USITC Pub. No. 4331, Comm'n Op. at 73 (June 2012) ("*Certain Personal Data*"). We have determined to include a provision in the remedial orders that allows Samsung to provide, for a period of two years,

at 10; United States Cellular Corp. at 3; James Valley Telecommunications at 3; Associated Carrier Group at 3.

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refurbished handsets as replacements for identical infringing handsets that were purchased prior to the entry of the remedial orders.

With respect to Samsung's request that the Commission's remedial orders exclude components within its scope, Apple has expressly stated that it does not request that any remedial order cover components. RD at 2. Consistent with this affirmation, Apple's proposed order and the IA's proposed order are limited to "electronic digital media devices," not including components. The Commission concurs with the parties and has excluded components from the scope of the orders.

Because a visual inspection of imported devices by CBP may not reveal whether a device falls within the scope of the exclusion order, Samsung requests the Commission to include a provision allowing entry upon certification that the articles in question do not infringe. SInitRemedySub at 79. Apple does not oppose inclusion of the Commission's standard certification provision. ARRemedySub at 31. The Commission has determined to include in the LEO the standard certification provision permitting CBP to implement procedures to enable persons seeking to import electronic digital media devices that are potentially subject to the order to certify that the products they seek to import are not within the scope of the order. This certification, which extends to Samsung's adjudicated redesigned products and any Samsung electronic digital media devices incorporating the design arounds found to be noninfringing, will mitigate the concerns raised by commenters regarding CBP's administration of the exclusion order.

In addition, Samsung requests that the Commission delay the effective date of any remedial order with respect to infringing mobile phones by at least nine months in light of alleged hurdles that other mobile device manufacturers, component suppliers, and carriers would

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need to overcome if all Samsung's mobile devices were excluded.²⁷ SInitRemedySub at 80-82.

Samsung argues its smartphone sales average approximately _____ per month and that the orders would thus affect _____ smartphones annually, which account for more than 25 percent of the U.S. smartphone market. Moreover, Samsung states that these products cover approximately _____ of carrier price tiers across fourteen major carriers. Whereas Samsung is vertically integrated and consumes a significant portion of its own manufactured components, Samsung asserts that other mobile device manufacturers would need additional time to ramp up in-house and outsourced manufacturing, and initiate significantly greater orders for components from numerous component suppliers, thereby straining the ability of other manufacturers to immediately fill the void left by the excluded Samsung devices. Samsung's expert, Mr. Davies, notes that Android manufacturers would need to expand their premium smartphone manufacturing capacity for the U.S. by more than _____ current output to meet consumer demand for premium smartphones that would replace excluded Samsung devices, requiring capital investment in manufacturing capacity, and possibly redesign of production equipment and/or redesign of products. Davies Decl. ¶ 49. Even assuming that sufficient manufacturing capacity is available and component suppliers are able to accommodate increased orders through inventories or added capacity, Samsung contends that mobile device manufacturers require at least six months from the date of decision to implement such manufacturing plans and deliver products to impacted carriers for sales to consumers. *Id.* To the extent that other mobile device manufacturers would seek to fill this demand with newly developed devices, Samsung argues

²⁷ Samsung products found to infringe the '949 and '501 patents include mobile phone handsets, tablet computers, and media players. Samsung's arguments concerning its request for a delay of the effective date of the Commission's remedial orders, however, appears to be directed to smartphones only. SInitRemedySub at 80-82.

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that obtaining carrier certifications would take at least 120 to 160 days. SprintRemedySub at 81-82.

Several commenters have also requested that any order contain at least a six month grace period to allow for redesigns and alternatives. Google requests a nine month grace period to permit carriers and retailers to find replacements for infringing products and for Samsung to redesign its products to avoid infringement, clear products through CBP, and obtain wireless carrier review and approval, a process which the parties agree takes an average of 120 to 160 days. Submission of Non-Party Google Inc. in Response to the Commission's Request for Submissions on the Public Interest at 4-5. Sprint Spectrum argues that a four month transition period would be insufficient, based on its experience with the administration of the exclusion order issued in the 710 investigation because HTC missed the release date for its redesigns as these were not cleared by CBP within the four month transition period. Sprint Spectrum at 6-7. Associated Carrier Group requests that a transition period of 180 days be provided to permit Samsung to make technical changes to its products to avoid infringement and permit sufficient testing and approval prior to launch. Associated Carrier Group at 4. James Valley Telecommunications requests a four month delay so that it can make any necessary short-term modifications in its supply chain and purchase orders given that it does not have a business relationship with Apple. James Valley Telecommunications at 4. Revol Wireless requests a delay of 180 days to allow it to obtain comparable and affordable replacement products. Revol Wireless at 2. Similarly, United States Cellular Corporation requests a bonding period of six months to avoid substantial disruption to its business. United States Cellular Corp. at 3. Ting Wireless notes its concern that it would experience difficulty replacing the Samsung devices in its product line within the two month bonding period, but does not request a specific period of

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delay in the effective date of the Commission's orders. Ting Wireless at 3. These submissions broadly argue that no competitor would be able to meet the demand of each wireless carrier that would suffer lost inventory and sales that would result from exclusion of Samsung's entire line of mobile devices. The IA argues that the requested transition periods appear somewhat arbitrary and speculative. IAREplySub at 21.

Apple argues that no special circumstances warrant any delay, relying largely on Samsung's demonstrated redesigns that have already been imported or sold in the United States. First, Apple argues that Samsung has had ample time to transition to adjudicated noninfringing redesigns since the ID issued in October 2012. AInitRemedySub at 27. Relying on its expert, Dr. Balakrishnan, Apple asserts that implementation of such redesigns in Samsung's products could be done relatively quickly. *Id.* With respect to the '949 patent, Dr. Balakrishnan declares that Samsung's source code modifications addressing three of four accused features can be made to all Samsung products, and there are no technical barriers to making updated code available to previously manufactured devices as well as new devices that have not yet been activated by a customer. Balakrishnan Decl. ¶¶ 3-4.²⁸ Second, Apple argues that Samsung introduces "50 or more models" annually and thus Samsung has had ample opportunity to introduce noninfringing designs or technology. AInitRemedySub at 28. Third, Apple contends that delayed

²⁸ Although Dr. Balakrishnan opines only as to the simplicity and ease of implementing redesigns around three of four accused features of the Samsung devices with respect to the '949 patent, Apple's submission unequivocally notes that Samsung's redesigns around all of its patents could be implemented "relatively quickly" and that Samsung has had ample time since the ID issued to implement such redesigns. AInitRemedySub at 27. Neither Apple nor Dr. Balakrishnan identify or suggest that there any technical barriers to implementation of the redesigns with respect to the '501 patent. Moreover, as noted, Apple acknowledges that redesigns around all of its patents can be rapidly implemented, and certainly within the period following issuance of the ID. *Id.*

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implementation is unnecessary to accommodate other market participants such as wireless carriers or retailers.

As discussed herein, the statute requires the Commission to examine the impact of its remedial orders on the public interest. Where the facts of a particular investigation show that it is necessary to modify the remedial orders to mitigate the impact of a remedial order on third parties, the Commission has moderated such adverse impacts, such as through delayed implementation of the orders or by limiting the scope of the orders, for example, through exemption of grandfathered products. *See, e.g., Certain Personal Data*, Inv. No. 337-TA-710, Comm’n Op. at 83 (delaying the effective date of an exclusion order based on competitive conditions in the U.S. economy); *Certain Baseband Processor Chips and Chipsets, Transmitter and Receiver (Radio) Chips, Power Control Chips, and Products Containing Same, Including Cellular Telephone Handsets*, Inv. No. 337-TA-543, USITC Pub. No. 4258, Comm’n Op. at 148-54 (October 2011) (grandfathering certain existing mobile telephone models from the scope of the exclusion order).

To support a request for a delay or other modification to a Commission remedial order, it is important for the parties to provide the Commission with empirical evidence, to the extent available, to show the volume and market share of infringing products that are covered by the orders, on a patent by patent basis as well as the volume and market shares, and available capacity for ramped up production of noninfringing products that are suitable substitutes for the infringing products. Samsung's request for a delay provides no such breakout of sales and market share for its infringing products on a patent-by-patent basis. Instead its request is predicated on its current average monthly sales volume of [REDACTED] smartphones, regardless of whether the products infringe one or more of the patents asserted in this investigation. Nor does

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Samsung quantify the volume and market share of redesigned products that were found noninfringing or new products that implement these noninfringing designs. Apple, on the other hand, submitted a statistical analysis prepared by its expert, Dr. Prowse, to demonstrate the effect of an exclusion order directed to the smartphone models found to infringe, but this analysis is insufficient for a number of reasons. First, the analysis aggregates the sales of products found to infringe the '949 and '922 patents, but the Commission has found that Samsung's products do not infringe the '922 patent. Prowse Decl. ¶¶ 41-42. Second, there are serious methodological flaws in Dr. Prowse's statistical analysis.²⁹ Because of these flaws in his statistical analysis, the Commission cannot credit Dr. Prowse's estimates that Samsung smartphone models found to infringe the '922/'949 patents and '501 patents comprise respectively of the total smartphone market in 2012. Prowse Decl. Exh. 9. Moreover, although Dr. Prowse asserts that the impact of the orders will be minimal based on the availability of Samsung's redesigns, Dr. Prowse provides no estimate of the market share for redesigns that do not infringe either the '949 or the '501 patents.

²⁹ Dr. Prowse's analysis sums 2011 sales data for Samsung smartphone models adjudicated to infringe the combined '922/'949 patents and the '501 patent, and then calculates 2011 market shares represented by these adjudicated infringing models as a percentage of Samsung's 2011 U.S. smartphone sales as estimated by Gartner (*see* AInitRemedySub, Tab 25 (Market Share: Mobile Phones by Region and Country, 4Q12 and 2012)). Prowse Decl., Exh. 8, 9. Dr. Prowse's analysis shows that Samsung's 2011 U.S. sales of smartphone models adjudicated to infringe the '922/'949 patent exceed Gartner's estimate of the 2011 total sales of Samsung smartphones sold in the United States. *Id.* Since adjudicated smartphones are a subset of total smartphones, the adjudicated total cannot logically be greater than the grand total of smartphone sales. Notwithstanding this error, Dr. Prowse then applies these 2011 calculated percentages to Samsung's total 2012 U.S. smartphones sales reported by Gartner, by assuming that the proportion of adjudicated infringing models in 2011 is identical to Samsung's product mix in 2012. *Id.* Dr. Prowse's assumption that Samsung's product mix is held constant from year to year is contradicted by Apple's assertion that Samsung introduces "50 or more models" of mobile devices annually, which brings into question the validity of applying weights from 2011 data to 2012 figures without any evidence that the product mix is congruent across years.

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The only reliable data provided by the parties concerning the likely effect of the remedial orders pertains to the volume and market share of the Samsung adjudicated infringing products that continue to be sold in the United States as of the date of issuance of the Commission's orders. Samsung provided information to the Commission showing that only two of the mobile devices that were found to infringe the '949 or '501 patents continue to be sold in the United States as of the date of the issuance of Commission's remedial orders. *See* SInitRemedySub. at 10, Apps. E, F (showing that the only infringing Samsung models that continue to be sold as of August 2013 are Samsung's total U.S. sales of these products in 2012 was accounting for of the total 2012 U.S. smartphone market as estimated by Samsung.³⁰ *See* SInitRemedySub, Exh. A-12. Apple does not dispute Samsung's evidence that these are the only two products found to infringe either the '949 or the '501 patents that continue to be sold in the United States as of the date of the issuance of the remedial orders in this investigation. Moreover, Samsung's concern that shipments of its entire product lines of electronic digital media devices will be held up at CBP are alleviated in view of the certification provision contained in the LEO as discussed above.³¹

³⁰ Even if we were to accept Dr. Prowse's questionable data, Dr. Prowse estimates that Samsung's sales of these two products in 2011 were accounting for of the total 2011 U.S. smartphone market.

³¹ Samsung's arguments regarding the breadth and potential impact of the remedial orders appear predicated upon the concern that upon issuance of the orders, Apple intends to "radically expand the scope of excluded articles beyond the specific features, models, or even product categories it accused during the investigation" such as its new infringement contentions regarding "phablets" and new features, such as Google maps that were "never even mentioned" in the proceedings before the ALJ. SRRemedySub at 1. Indeed, it appears that Apple raises new infringement contentions and accuses new products in its remedy submissions. *See, e.g.,* ARRemedySub at 27 (noting that although Samsung engineers testified that they redesigned Samsung's devices to avoid infringement of the '949 patent, "an inspection of Samsung's current devices revealed that numerous Samsung mobile devices, including the Galaxy S IV, Galaxy S III, Galaxy Admire, Galaxy Appeal, Galaxy Note II, Galaxy Note 8.0 and Galaxy Note 10.1

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In addition, as discussed above, the evidence shows that Samsung already has imported or sold 11 redesigned smartphone models and 2 redesigned tablet models that were adjudicated not to infringe the '949 patent and one smartphone model adjudicated not to infringe the '501 patent. *See* ID at 11-12 (identifying the redesigned product models). The Commission has affirmed these noninfringement findings. *See supra* at 103-105. The noninfringement ruling as to these redesigned products was issued nearly ten months ago, providing ample time for Samsung to implement the redesigns into its product lines and to obtain wireless carrier review and approval, a process which the parties agree takes an average of 120 to 160 days. In light of this record evidence concerning the limited effect of the remedial orders on Samsung's current product line available for sale in the United States in the months immediately after the remedial order goes into effect, the Commission finds that a delay in the effective date of the remedial orders is not warranted to mitigate potential adverse effects on consumers in the United States.

The parties also dispute whether the facts in the present investigation are analogous to the facts showing special circumstances that warranted a delay in the effective date of the remedy in the 710 investigation. In the 710 investigation, the Commission published a notice seeking public comment on a potential LEO against certain HTC smartphones. In response to the Commission notice, a third-party carrier, T-Mobile, filed a submission discussing the adverse impact that such an order would have upon its business. In particular, T-Mobile noted its recent investment in building a 4G network and its reliance on HTC devices to give consumers access to that network. T-Mobile stated that a majority of its sales were HTC smartphones and that it offered only one non-HTC smartphone. T-Mobile also stated it was particularly reliant on HTC

continue to incorporate scrolling and panning functionality that infringes the '949 patent."'). The Commission notes that any new allegations of infringement concerning new Samsung products or redesigns can be expeditiously adjudicated through the Commission's established post-order *inter partes* procedures.

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devices to compete with other networks because, at the time, T-Mobile was the only one of the four major wireless carriers that did not offer a version of the Apple iPhone. T-Mobile requested that the Commission delay the effective date of any exclusion order by four to six months to allow it to test and procure non-HTC substitutes and to obtain regulatory approval to sell those devices. The Commission credited T-Mobile's arguments, and also recognized recent statements by the President and the Department of Justice describing the importance of 4G networks to the U.S. economy and the importance to a vibrant mobile marketplace of T-Mobile remaining a strong and functionally viable competitor in that market. The Commission found, under these circumstances, that an exclusion order could have an adverse effect on the competitive conditions in the U.S. economy. Based on these concerns, which were in part unique to T-Mobile's vulnerable competitive position in the marketplace at the time, the Commission determined to delay the effective date of its remedy with respect to T-Mobile by four months. The Commission found, however, that this delay unfairly favored T-Mobile and extended the four-month delay to all infringing smartphones, and not just those sold by T-Mobile. *See Certain Personal Data*, Inv. No. 337-TA-710, Comm'n Op. at 78-83.

In contrast to the facts of the 710 investigation, neither the parties nor third party commenters submitted factual information and empirical data concerning the magnitude of the effect of excluding Samsung products found to infringe the '949 or '501 patents or any other special circumstances that would warrant a delay in the present investigation. As discussed above, the parties do not dispute that only two Samsung products found to infringe the '949 or '501 patent continue to be sold in the United States as of the date of the Commission's remedial orders, and these products account for _____ of the U.S. smartphone market. Moreover, the record shows that wireless carriers that offer the infringing Samsung devices have

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other competitive devices to offer to consumers, including other Samsung products as well as products of other smartphone suppliers. AInitRemedySub at 22-24 (at least twenty vendors sold smartphones in 2012); SRRemedySub at 9-10, 11-12.

The Commission therefore determines to issue an LEO barring entry of accused Samsung products and CDOs against STA and SEA prohibiting further sale and distribution of accused Samsung products in the United States with no delay in enforcement.

iii. Bonding

During the 60-day period of Presidential review, imported articles otherwise subject to remedial orders are entitled to conditional entry under bond. 19 U.S.C. § 1337(j)(3). The amount of the bond is specified by the Commission and must be an amount sufficient to protect the complainant from any injury. *Id.*; 19 C.F.R. § 210.50(a)(3). The Commission frequently sets the bond by attempting to eliminate the difference in sales prices between the patented domestic product and the infringing product, or basing the bond upon a reasonable royalty rate. *Certain Microsphere Adhesives, Process For Making Same, and Products Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, USITC Pub. No. 2949, Comm'n Op. at 24 (Jan. 1996). However, complainant bears the burden of establishing the need for a bond amount in the first place. *Certain Rubber Antidegradants, Components Thereof and Products Containing Same*, Inv. No. 337-TA-533, Comm'n Op. at 39-40 (July 21, 2006).

The Commission has found that Apple has proven a violation with respect to certain accused Samsung mobile phones, media players and tablets. Given the direct competition between Apple and Samsung and evidence of a strategy by Samsung to undercut Apple's pricing, the ALJ found "the evidence suggests both a basis and a need for a bond." RD at 9. The ALJ recommended that Samsung be required to post a bond of 88 percent, 32.5 percent, and 37.6

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percent of the entered value for mobile phones, media players, and tablets, respectively, found to infringe the D'678, '922, '949, and '501 patents during the Presidential review period. *Id.*

Apple agrees with the ALJ's recommendation.

The IA notes that, although Apple and Samsung are direct competitors, Samsung sells several mobile phones for under \$200, while Apple sells no phones in that price range. IAINitSub at 31. Therefore, the IA believes that the bond for mobile phones should be set to 58 percent of entered value, a rate which results from the exclusion of data for mobile phones selling for \$200 or less from the ALJ's price comparison. *Id.*

Samsung asks the Commission to set no bond, but any bond rate should not exceed those in Apple's license with HTC or its asserted royalty rates in district court litigation against Samsung. SInitRemedySub at 88-96. Samsung argues that the ALJ relied on price differential calculations that included "stale" data, did not adjust for products with different features such as memory size and camera megapixels, ignored price fluctuation and product turnover in the industry, and assumed that all domestic industry products practice each patent and that all Samsung products infringe every asserted patent. *Id.* at 90-95; SRRemedySub at 89-90.

Samsung asserts that since the close of discovery, Apple has asserted

. SRRemedySub

at 91.

Several commenters expressed their desire for a zero bond, or a bond that does not exceed ten percent. *See, e.g.,* Unites States Cellular Corporation at 3-4; Sprint Spectrum at 7; Associated Carrier Group at 3-4; James Valley Telecommunications at 4. For example, Sprint Spectrum and Unites States Cellular Corporation argue that a bond rate of 88 percent risks

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making importation commercially infeasible, thereby effectively preventing importation. Sprint Spectrum at 9; United States Cellular Corporation at 4. Samsung argues that bond rates at the level adopted by the ALJ would effectively exclude the accused products from the United States during the period of Presidential review because they exceed the amount sufficient to protect Apple from injury. SInitRemedySub at 95 (citing Vander Veen Decl. ¶ 32). Samsung's operating profit margin for its telecommunications segment, which includes the smartphones at issue in this investigation, was approximately _____ of net sales in 2011. *Id.*

The Commission finds Dr. Prowse's categorical weighted average price comparison to be flawed, and the ALJ's acceptance of Dr. Prowse's flawed price differential calculations was improper. Although it is undisputed that Samsung and Apple are direct competitors in the mobile phone, media player, and tablet markets, the Commission finds the record evidence is insufficient to identify which infringing products and patented domestic products directly compete with each other and the average sales prices for those products. Without such information, the Commission is unable to determine appropriate bond rates that will be needed to protect Apple from harm to its domestic patented products by eliminating the difference in sales prices between Apple's patented domestic products and Samsung's infringing products for each infringed patent.

Even though the evidence is insufficient to calculate an appropriate bond amount based on price differentials, the Commission finds the record evidence supports basing the bond amount upon

Id. at 97.

Id. at 95

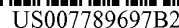
By setting the bond rate

The Commission therefore finds a bond

For the foregoing reasons, the Commission determines that infringing mobile phones,

IV. CONCLUSION

The Commission determines that Apple has proven a violation of section 337 based on



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(45) **Date of Patent:** **Sep. 7, 2010**

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|-----------|------|---------|-------------------------|---------|
| 5,634,822 | A * | 6/1997 | Gunell | 439/668 |
| 5,831,438 | A * | 11/1998 | Okura | 324/538 |
| 5,938,478 | A * | 8/1999 | Werner | 439/668 |
| 6,116,935 | A * | 9/2000 | Fukuda | 439/310 |
| 6,123,575 | A * | 9/2000 | Huang et al. | 439/489 |
| 6,422,902 | B1 * | 7/2002 | Ogren et al. | 439/668 |
| 6,835,080 | B1 * | 12/2004 | Chang | 439/188 |
| 6,855,003 | B1 * | 2/2005 | Wyant | 439/502 |
| 6,866,527 | B2 * | 3/2005 | Potega | 439/218 |
| 6,869,316 | B2 * | 3/2005 | Hinkle et al. | 439/675 |
| 6,945,803 | B2 * | 9/2005 | Potega | 439/218 |
| 6,981,887 | B1 * | 1/2006 | Mese et al. | 439/244 |
| 7,083,475 | B2 * | 8/2006 | Henneberger et al. | 439/668 |
| 7,128,591 | B2 * | 10/2006 | Tsai | 439/188 |
| 7,150,641 | B2 * | 12/2006 | Tsai | 439/188 |
| 7,234,974 | B2 * | 6/2007 | Henneberger et al. | 439/668 |

(Continued)

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(56) **References Cited**

(57) **ABSTRACT**

U.S. PATENT DOCUMENTS

- | | | | | | |
|-----------|---|---|---------|-------------------------|---------|
| 3,852,703 | A | * | 12/1974 | Carney et al. | 439/372 |
| 4,367,907 | A | * | 1/1983 | Buck | 439/188 |
| 4,392,708 | A | * | 7/1983 | Bailey et al. | 439/668 |
| 4,548,447 | A | * | 10/1985 | Dinsmore | 439/43 |
| 4,658,212 | A | * | 4/1987 | Ozawa et al. | 324/754 |
| 4,758,536 | A | * | 7/1988 | Miller et al. | 439/138 |
| 4,770,639 | A | * | 9/1988 | Lau | 439/61 |
| 4,840,568 | A | * | 6/1989 | Burroughs et al. | 439/49 |
| 4,954,096 | A | * | 9/1990 | Frank | 439/346 |
| 4,975,087 | A | * | 12/1990 | Williams et al. | 439/668 |
| 5,145,416 | A | * | 9/1992 | Cruise et al. | 439/668 |
| 5,170,327 | A | * | 12/1992 | Burroughs | 361/728 |
| 5,393,249 | A | * | 2/1995 | Morgenstern et al. | 439/668 |
| 5,429,519 | A | * | 7/1995 | Murakami et al. | 439/310 |

Plug detection mechanisms can be provided for detecting when a plug of an accessory component is present within a jack of an electronic device. A detect contact and a jack contact may be positioned within a receptacle of the jack such that a signal path may be created through the plug and between the detect contact and the jack contact when the plug is present within the receptacle of the jack. The detect contact may be biased to exert a retention force on the plug. The detect contact may be positioned to contact the plug within an indent of the plug.

29 Claims, 5 Drawing Sheets



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U.S. PATENT DOCUMENTS

7,241,157 B2 *	7/2007	Zhuang et al.	439/188	7,503,807 B2 *	3/2009	Martin et al.	439/638
7,247,046 B1 *	7/2007	Wu	439/490	2001/0055905 A1 *	12/2001	Tezuka	439/488
7,316,588 B1 *	1/2008	Rogers et al.	439/668	2005/0191887 A1 *	9/2005	Hsieh	439/188
7,316,589 B1 *	1/2008	Rogers et al.	439/668	2006/0183368 A1 *	8/2006	Kim	439/502
7,322,858 B1 *	1/2008	Rogers et al.	439/669	2007/0218774 A1 *	9/2007	Han et al.	439/668
7,495,188 B2 *	2/2009	Follingstad et al.	200/51 R	2009/0061694 A1 *	3/2009	Kawasaki et al.	439/669

* cited by examiner

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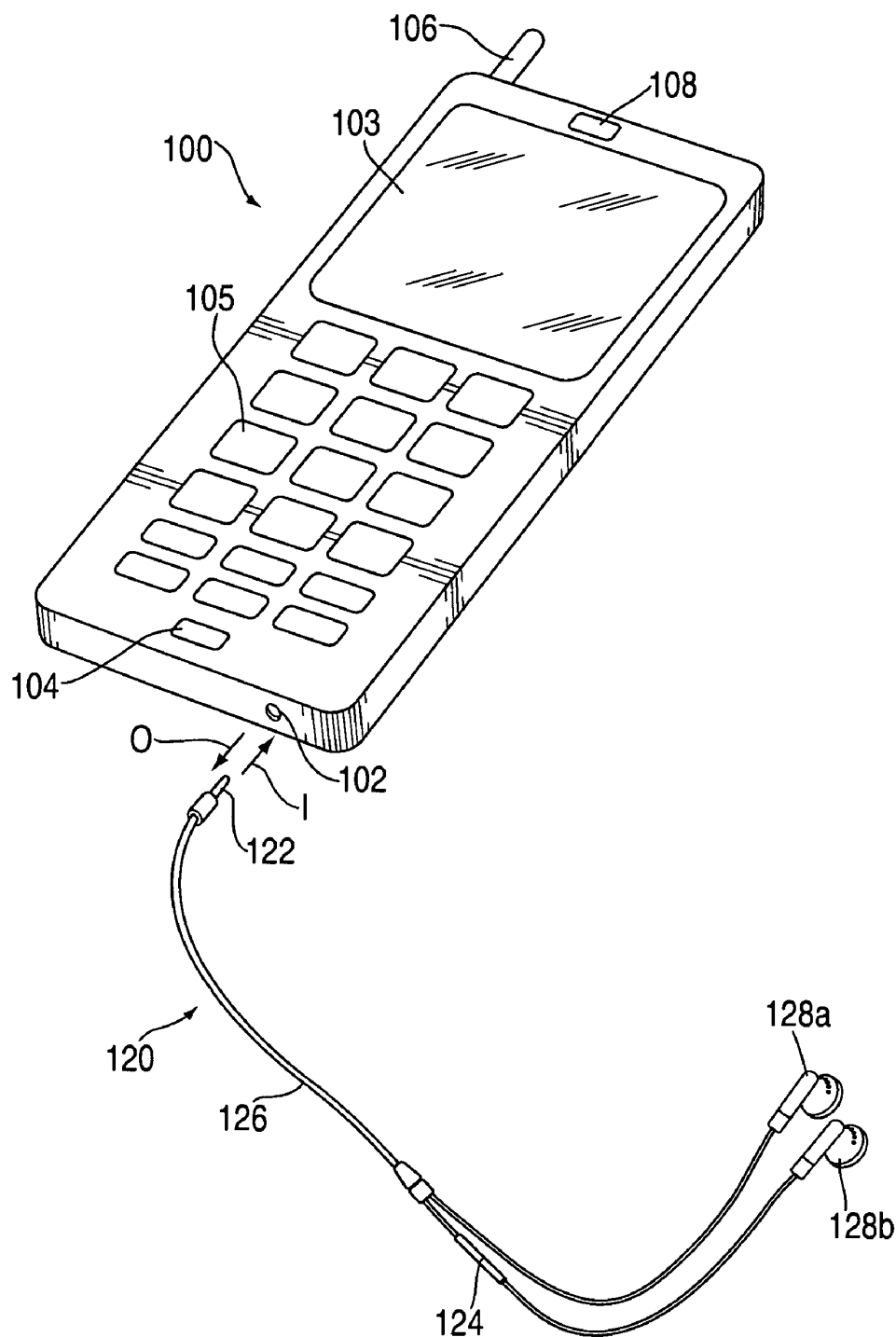


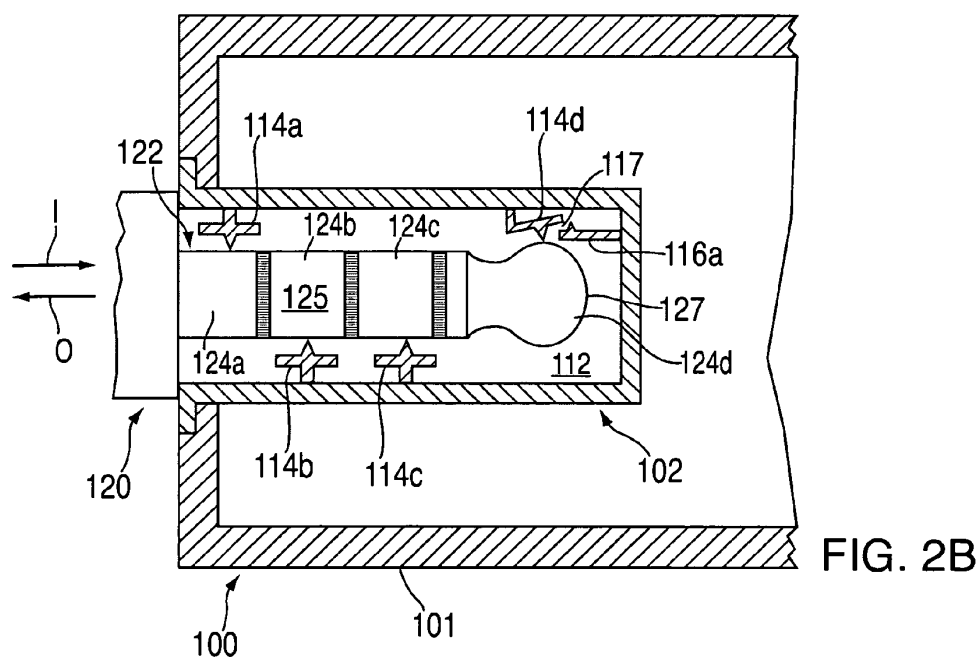
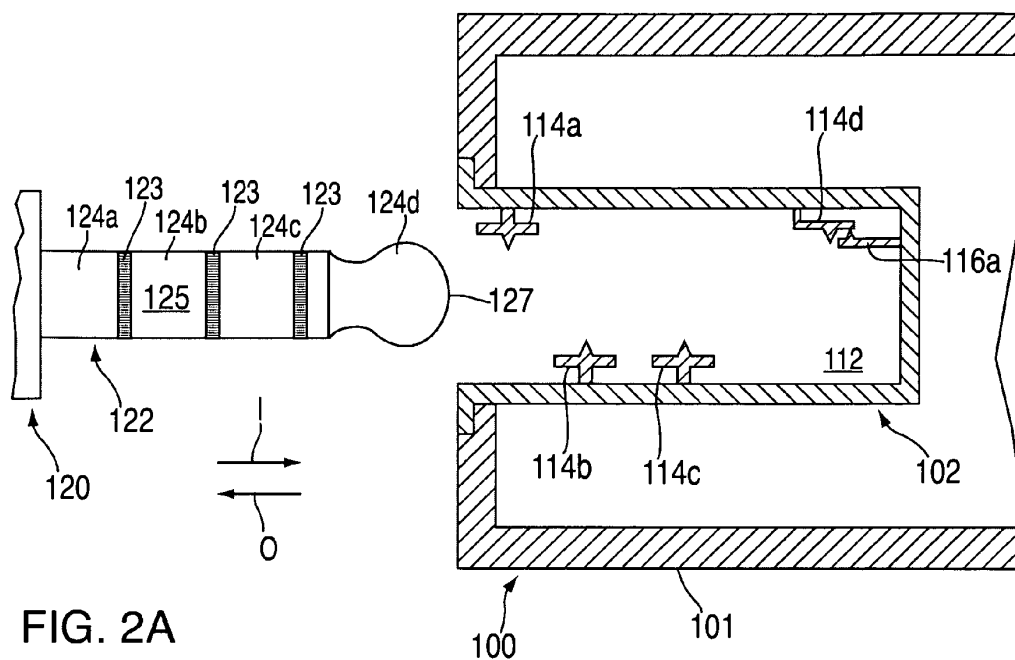
FIG. 1

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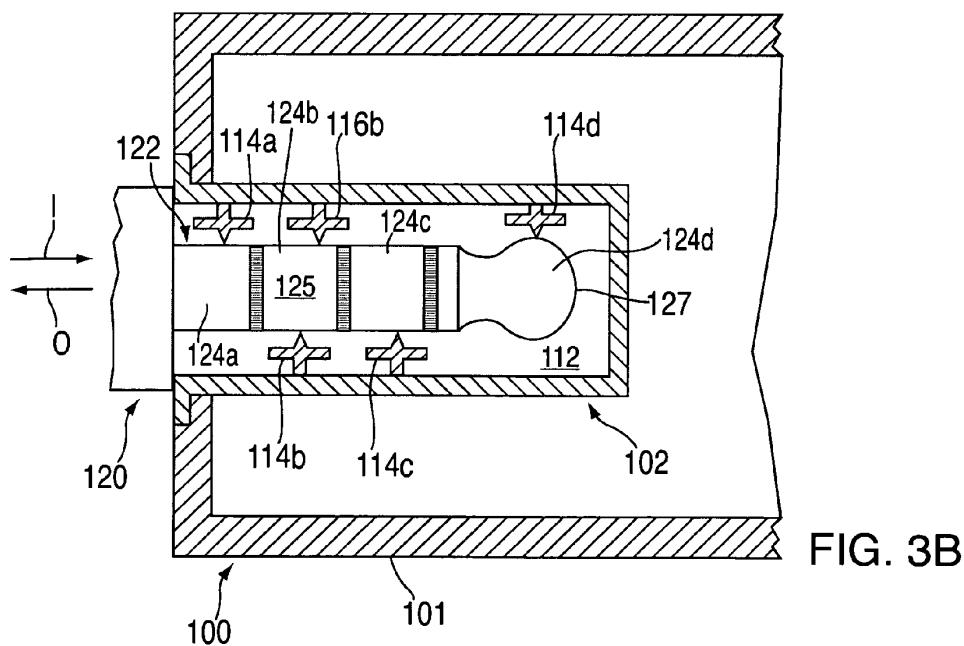
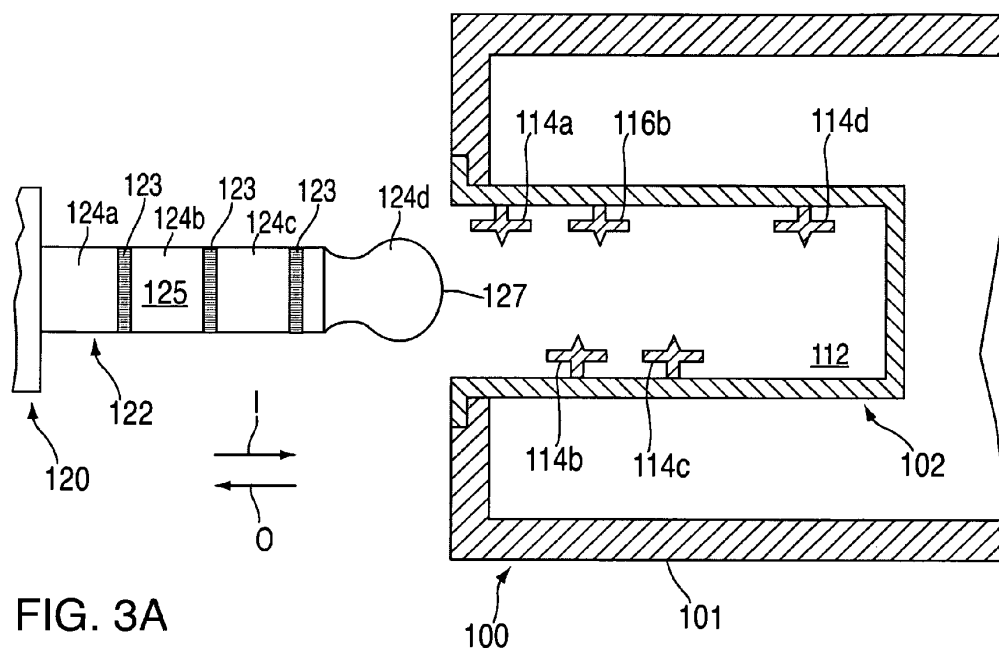


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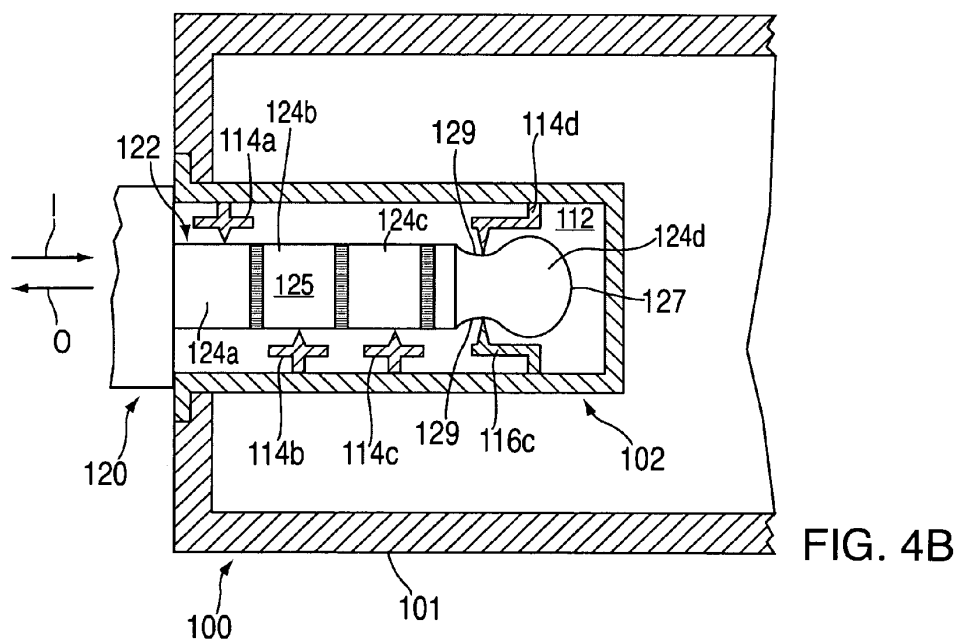
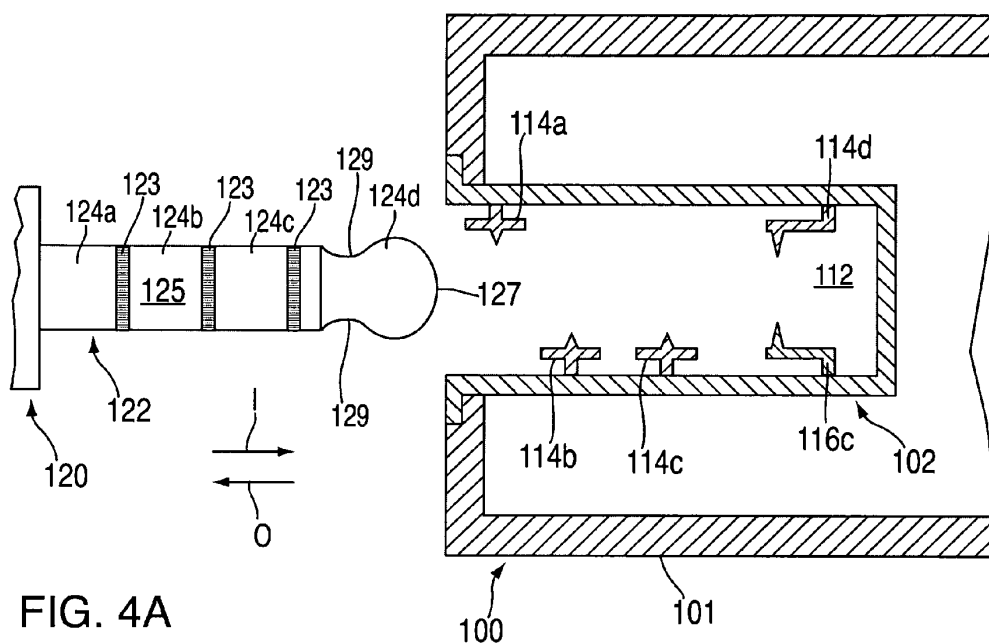


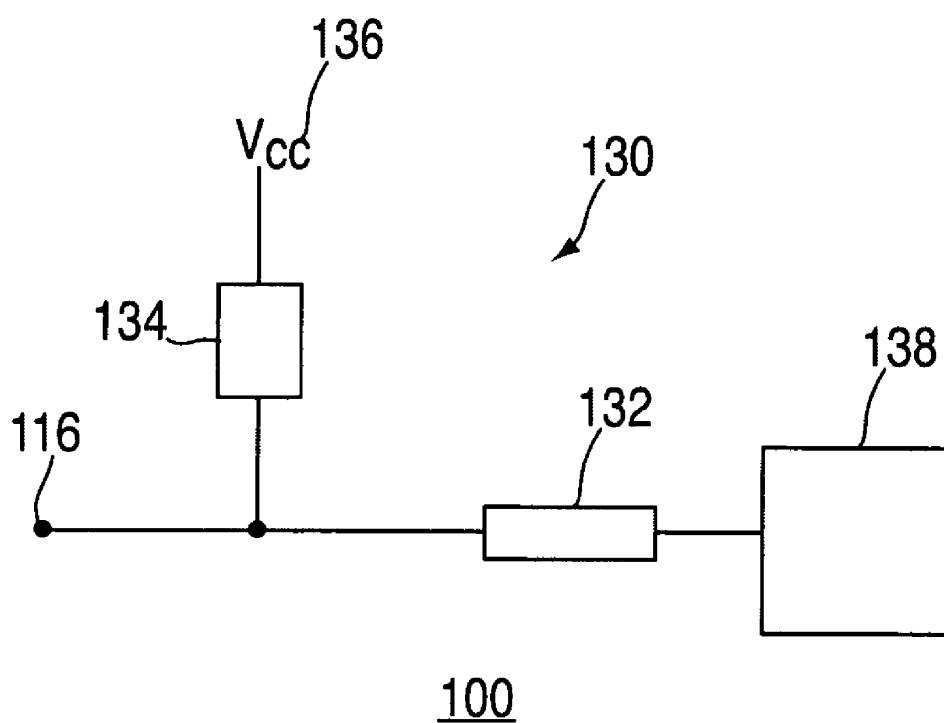
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PLUG DETECTION MECHANISMS

CROSS-REFERENCE TO RELATED APPLICATION

This claims the benefit of U.S. Provisional Application No. 60/934,234, filed Jun. 11, 2007, which is hereby incorporated by reference herein in its entirety.

FIELD OF THE INVENTION

This can relate to systems for detecting when a plug of an accessory component is present within a jack of an electronic device.

BACKGROUND OF THE DISCLOSURE

There is a need for determining when a plug of an accessory component is present within a jack of an electronic device. Specifically, there is a need for reliably determining when a plug of an accessory component is present within a jack of an electronic device that is configured to alter its function based on whether such a plug is present.

Accordingly, what is needed are systems for reliably detecting when a plug of an accessory component is present within a jack of an electronic device.

SUMMARY OF THE DISCLOSURE

Systems for detecting when a plug of an accessory component is present within a jack of an electronic device are provided.

According to an embodiment of the invention, a plug detect apparatus for detecting the presence of a plug is provided, wherein the plug has at least a first plug contact. The plug detect apparatus includes a receptacle configured to accept the plug. The plug detect apparatus also includes a first receptacle contact disposed in the receptacle, wherein the first receptacle contact is configured to communicate with the first plug contact. The plug detect apparatus also includes a detect contact disposed in the receptacle, wherein the presence of the plug within the receptacle creates a signal path through the plug and between the detect contact and the first receptacle contact.

According to another embodiment of the invention, an electronic device capable of detecting the presence of a plug of an accessory component is provided, wherein the plug includes a first plug contact. The electronic device includes a receptacle configured to accept the plug. The electronic device also includes a first receptacle contact disposed in the receptacle, wherein the first receptacle contact is configured to communicate with the first plug contact. The electronic device also includes a detect contact disposed in the receptacle, wherein the presence of the plug within the receptacle creates a plug signal path through the plug and between the detect contact and the first receptacle contact. The electronic device may also include a first input/output component as well as control circuitry coupled to the detect contact. The control circuitry of the electronic device may be configured to instruct the electronic device to utilize the first input/output component when a detect signal on the detect contact has a first value. The control circuitry of the electronic device may

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also be configured to instruct the electronic device to utilize the accessory component when the detect signal has a second value.

BRIEF DESCRIPTION OF THE DRAWINGS

The above and other features of the invention, its nature and various advantages will become more apparent upon consideration of the following detailed description, taken in conjunction with the accompanying drawings, in which like reference characters refer to like parts throughout, and in which:

FIG. 1 is a perspective view of an electronic device and a corresponding accessory component in accordance with the invention;

FIGS. 2A and 2B show a portion of the electronic device and accessory component of FIG. 1 in greater detail at various stages of interaction according to an embodiment of the invention;

FIGS. 3A and 3B show a portion of the electronic device and accessory component of FIG. 1 in greater detail at various stages of interaction according to another embodiment of the invention;

FIGS. 4A and 4B show a portion of the electronic device and accessory component of FIG. 1 in greater detail at various stages of interaction according to yet another embodiment of the invention; and

FIG. 5 is a schematic diagram of a portion of the electronic device of FIG. 1 in accordance with the invention.

DETAILED DESCRIPTION OF THE DISCLOSURE

Systems for detecting when a plug of an accessory component is present within a jack of an electronic device are provided and described with reference to FIGS. 1-5.

FIG. 1 shows a perspective view of an illustrative electronic device **100** that may include a socket or jack **102** with a plug detection mechanism for detecting when a plug **122** of an accessory component **120** is present within jack **102**. Electronic device **100** may be any electronic device, such as, but not limited to, a music player, video player, still image player, game player, other media player, music recorder, video recorder, camera, other media recorder, radio, medical equipment, calculator, cellular telephone, other wireless communication device, personal digital assistant, remote control, pager, laptop computer, desktop computer, printer, or combinations thereof. In some cases, the electronic device may perform a single function (e.g., an electronic device dedicated to receiving and transmitting telephone calls) and, in other cases, the electronic device may perform multiple functions (e.g., an electronic device that plays music, displays video, stores pictures, and receives and transmits telephone calls).

In some case, electronic device **100** may generally be any portable, mobile, hand-held, or miniature electronic device with a jack capable of receiving and detecting a plug of an accessory device so as to allow a user to use the accessory in conjunction with the electronic device. Miniature personal electronic devices may have a form factor that is smaller than that of hand-held personal electronic devices, such as an iPod™ available by Apple Inc. of Cupertino, Calif. Illustrative miniature personal electronic devices can be integrated into various objects that include, but are not limited to, watches, rings, necklaces, belts, accessories for belts, headsets, accessories for shoes, virtual reality devices, other wearable electronics, accessories for sporting equipment, accessories for fitness equipment, key chains, or any combination thereof. Alternatively, electronic devices of the invention that

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include a jack capable of receiving and detecting a plug of an accessory device may not be portable at all.

Accessory component 120 may be any component that can be coupled to and used in conjunction with electronic device 100, such as, but not limited to, audio speakers, headphones, a video display, microphone, or combinations thereof. In some cases, the accessory component may perform a single function (e.g., an accessory dedicated to capturing audio signals and passing them on to electronic device 100) and, in other cases, the accessory component may perform multiple functions (e.g., an accessory that captures audio signals to pass on to the electronic device, as well as an accessory that receives audio signals from the electronic device and amplifies them for a user). Electronic device 100 is illustrated in FIG. 1 to be a cellular telephone, although it is to be understood that electronic device 100 may be any type of electronic device as described herein in accordance with the invention. Moreover, accessory component 120 is illustrated in FIG. 1 to be a headset, although it is to be understood that accessory component 120 may be any type of accessory component as described herein in accordance with the invention.

Electronic device 100, which is illustrated as a cellular telephone in FIG. 1, may include a housing 101, an output component 103, a user input component 105, and an external antenna 106. Output component 103 may be any suitable display for displaying media, including graphics, text, and video, to a user of electronic device 100. In some embodiments, output component 103 may be a touch screen display or a liquid crystal display ("LCD") screen. User input component 105 may allow a user to interact with electronic device 100. For example, user input component 105 can include one or more buttons, touchpads, touchscreens, scrollwheels, clickwheels, sliders, other appropriate input mechanisms, or any combination thereof. In some embodiments, output component 103 and user input component 105 can be combined (e.g., in a touchscreen or touch-sensitive display). Electronic device 100 also can be equipped with a built-in microphone 104 and a built-in speaker 108. Built-in speaker 108 can output audible sound to a user of device 100, while built-in microphone 104 can accept audible sound from the user. Output component 103, user input component 105, microphone 104, and speaker 108, either separately or in combination, may be referred to herein as an input/output ("I/O") component of electronic device 100.

Electronic device 100 also can be equipped with an accessory jack 102. Accessory jack 102 can be configured to accept a plug 122 from accessory component 120. Moreover, although not shown in FIG. 1, electronic device 100 can include various other components, such as a battery, a processor, memory, and the like for providing a properly functioning device.

Accessory component 120, which is illustrated as a headset in FIG. 1, may include a cable 126 extending between plug 122, a microphone 124, and earphones 128a and 128b. When accessory plug 122 is properly inserted into jack 102 of electronic device 100 in the direction of arrow I of FIG. 1, device 100 can be configured to output audible sound from earphones 128 of accessory 120 rather than, or as well as, from speaker 108 of device 100. Similarly, when accessory plug 122 is properly inserted into jack 102 of electronic device 100, device 100 can be configured to accept audible sound from microphone 124 of accessory 120 rather than, or as well as, from microphone 104 of device 100.

FIGS. 2A and 2B illustrate jack 102 of electronic device 100 and plug 122 of accessory component 120 in greater detail in accordance with one embodiment of the invention. Jack 102 can include a recess or receptacle 112 within which

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may be disposed one or more jack contacts 114 (e.g., four jack contacts 114a-114d). Accessory plug 120 can include one or more plug contacts 124 (e.g., four plug contacts 124a-124d) that may complement a respective one of the one or more jack contacts 114. Each one of jack contacts 114a-114d can be electrically isolated from each of the other adjacent jack contacts 114a-114d by being spaced apart within receptacle 112. Likewise, each one of plug contacts 124a-124d also can be electrically isolated from each of the other adjacent plug contacts 124a-124d by one or more insulators (e.g., insulator rings 123) spaced along the length of body 125 of plug 122.

When accessory plug 120 is inserted into receptacle 112 of jack 102 in the direction of arrow I, one or more plug contacts 124a-124d can come into contact (e.g., make electrical contact) with a respective one of the one or more jack contacts 114a-114d, as shown in FIG. 2B, for example. Along with other circuitry components of device 100 and accessory component 120 that are not shown, jack contacts 114 and plug contacts 124 can pass signals between electronic device 100 and accessory component 120 in order to affect the function of each other.

In one illustrative embodiment of the invention, plug contact 124a can pass signals from microphone 124 of accessory component 120 to electronic device 100 through jack contact 114a when plug contact 124a makes an electrical contact with jack contact 114a. Plug contact 124b and jack contact 114b can each act as ground. Jack contact 114c can pass signals from electronic device 100 to earphone 128a of accessory component 120 when plug contact 124c makes an electrical contact with jack contact 114c, and jack contact 114d can similarly pass signals from electronic device 100 to earphone 128b of accessory component 120 when plug contact 124d makes an electrical contact with jack contact 114d. Alternatively, jack contacts 114a-114d and plug contacts 124a-124d can be assigned to serve other roles. For example, contacts 114d and 124d can serve as ground while the remaining contacts can be functional contacts that pass functional signals to each other.

FIGS. 2A and 2B also illustrate a plug detection mechanism of electronic device 100 in accordance with one embodiment of the invention. To detect whether plug 122 has been disposed within receptacle 112 of jack 102, electronic device 100 can include an electrical and/or mechanical switch that is actuated when plug 122 is present within jack 102. For example, electronic device 100 can include a detect contact 116a in jack 102 to facilitate detection of plug 122. One of the contacts of jack 102 (e.g., jack contact 114d, as shown in FIGS. 2A and 2B) can be biased against detect contact 116a (e.g., using spring-loading) when no plug is present within receptacle 112 of jack 102.

However, when a plug is inserted into receptacle 112 of jack 102, a portion of the plug (e.g., tip 127 of plug 122 as shown in FIG. 2B) may contact and exert a force on biased jack contact 114d. This force exerted by plug 122 can move biased jack contact 114d away from detect contact 116a, thereby creating a gap 117 between biased jack contact 114d and detect contact 116a, as shown in FIG. 2B. Gap 117 may thereby open the circuit that had been previously established across jack contact 114d and detect contact 116a when they were biased against each other, as shown in FIG. 2A. This can cause a signal on detect contact 116a to go high (i.e., greater than or equal to a predetermined signal value), for example, which can be detected by a control unit of device 100, as described in more detail herein below with respect to FIG. 5. It is to be noted that in other embodiments, the plug detection mechanism may be configured such that the value of the signal on detect contact 116a can go low instead of high when

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gap 117 opens the circuit that had been previously established across jack contact 114d and detect contact 116a when they were biased against each other. Advantageously, because detect contact 116a may be electrically and/or mechanically isolated from one or more of jack contacts 114 when plug 122 is present within receptacle 112 of jack 102, as shown in FIG. 2B, detect contact 116a may not interfere with any signals passed between jack contacts 114 and plug contacts 124.

FIGS. 3A and 3B illustrate a plug detection mechanism of electronic device 100 in accordance with another embodiment of the invention. In this embodiment, to detect whether plug 122 has been inserted into and is present within receptacle 112 of jack 102, electronic device 100 can include a detect contact 116b. Detect contact 116b can be located within jack 102 such that one of plug contacts 124 of plug 122 can create a path (e.g., a low impedance circuit path) between detect contact 116b and one of jack contacts 114 when plug 122 is inserted into and present within receptacle 112 of jack 102. Body 125 of plug 122, which may be made at least partially of metal or another conductive material, can be used to form plug contacts 124, and can be used to complete a signal path or circuit between detect contact 116b and a respective jack contact 114.

For example, as shown in FIG. 3B, when plug 122 is inserted into and present within receptacle 112 of jack 102, a circuit signal path may be created through plug 122 (e.g., through plug contact 124b) and between detect contact 116b and jack contact 114b. This can cause a signal on detect contact 116b to go low (i.e., less than or equal to a predetermined signal value) if, for example, jack contact 114b is a ground jack contact (e.g., a contact coupled to ground). This low signal can then be detected by a control unit of device 100, as described in more detail herein below with respect to FIG. 5. However, in other embodiments, jack contact 114b may be a functional jack contact (e.g., a contact configured to pass variable audio signals between electronic device 100 and accessory component 120). The circuit signal path created through plug 122 and between detect contact 116b and a functional jack contact 114b when plug 122 is present within receptacle 112 may have a relatively higher impedance but may still be a low impedance circuit path. This signal can also be detected by a control unit of device 100, as described in more detail herein below with respect to FIG. 5. However, care may need to be taken such that the functional signal that may be passed by the functional jack contact is not adversely affected when the functional jack contact is also being used as the plug detect mechanism.

Advantageously, because detect contact 116b can be rubbed or wiped by plug 122 every time plug 122 is inserted into and/or removed from jack 102 (e.g., in the direction of arrows I and O, respectively), if debris collects on detect contact 116b, such debris can be cleaned off by plug 122 as it is inserted into or removed from jack 102. In comparison, the illustrative embodiment of FIGS. 2A and 2B may not permit accumulated debris to be as easily removed from detect contact 116a. For example, when debris (e.g., pocket lint or other miscellaneous debris prone to enter jack 102 of device 100) falls into receptacle 112, it can get lodged in between biased jack contact 114d and detect contact 116a, thereby preventing biased jack contact 114d from making electrical and/or mechanical contact with detect contact 116a when plug 122 is not present within jack 102. Because detect contact 116a can be disposed within electronic device 100 so that detect contact 116a does not touch plug 122 when plug 122 is present within jack 102, detect contact 116a may never be cleaned (e.g., may never be wiped) by plug 122 during its insertion into or removal from receptacle 112 of jack 102. Thus, accu-

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mulated debris can interfere with the functionality of the plug detect mechanism (e.g., detect contact 116a of jack 102) and electronic device 100 may always seemingly detect the presence of a plug within jack 102, even if there is not, due to gap 117 created by the debris lodged between detect contact 116a and biased jack contact 114d.

Therefore, if electronic device 100 includes detect contact 116a and is configured to change its functionality based on whether an accessory, such as accessory component 120, has been attached thereto by detecting whether an accessory plug is present within jack 102, electronic device 100 may constantly and often erroneously be engaged in an "accessory" mode due to uncanceled debris. However, by relocating the detect contact into the position of detect contact 116b of FIGS. 3A and 3B, such that it can contact plug 122 when plug 122 is present within receptacle 112 of jack 102, this potential problem can be rectified due to the ability of plug 122 to contact detect contact 116b and wipe any debris off of detect contact 116b or out from between detect contact 116b and jack contact 114b upon plug 122 being inserted into and/or removed from jack 102.

In one embodiment of the invention, detect contact 116b of FIGS. 3A and 3B can be disposed within jack 102 such that plug 122 can form a path between a jack contact 114 and detect contact 116b when plug 122 is present within receptacle 112. For example, in the illustrative embodiment of FIGS. 3A and 3B, jack contact 114b can serve as ground and detect contact 116b can be disposed opposite to ground jack contact 114b within receptacle 112. Signals on other jack contacts 114 (e.g., functional jack contacts 114a, 114c, and 114d) can be referenced to ground jack contact 114b, such that no signal degradation may occur. Alternatively, detect contact 116b may be disposed opposite to one of functional jack contacts 114a, 114c, and 114d according to the invention.

FIGS. 4A and 4B illustrate a plug detection mechanism of electronic device 100 in accordance with yet another embodiment of the invention. In this embodiment, to detect whether plug 122 has been inserted into and is present within receptacle 112 of jack 102, electronic device 100 can include a detect contact 116c. Like detect contact 116b of FIGS. 3A and 3B, detect contact 116c can be located within jack 102 such that one of plug contacts 124 of plug 122 can create a path (e.g., a low impedance circuit path) between detect contact 116c and one of jack contacts 114 when plug 122 is inserted into and present within receptacle 112 of jack 102. Body 125 of plug 122, which may be made at least partially of metal or another conductive material, can be used to form plug contacts 124, and can be used to complete the circuit between detect contact 116c and a respective jack contact 114.

For example, as shown in FIG. 4B, when plug 122 is inserted into and present within receptacle 112 of jack 102, a circuit signal path may be created through plug 122 (e.g., plug contact 124d) and between detect contact 116c and jack contact 114d. This can cause a signal on detect contact 116c to go low (i.e., less than or equal to a predetermined signal value) if, for example, jack contact 114d is a ground jack contact. This low signal can then be detected by a control unit of device 100, as described in more detail herein below with respect to FIG. 5. However, in other embodiments, jack contact 114d may be a functional jack contact (e.g., a contact configured to pass variable audio signals between electronic device 100 and accessory component 120). The circuit signal path created through plug 122 and between detect contact 116c and a functional jack contact 114d when plug 122 is present within receptacle 112 may have a relatively higher impedance but may still be a low impedance circuit path. This signal can also

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be detected by a control unit of device 100, as described in more detail herein below with respect to FIG. 5. However, care may need to be taken such that the functional signal that may be passed by the functional jack contact is not adversely affected when the functional jack contact is also being used as the plug detect mechanism.

Detect contact 116c may be positioned within jack 102 and biased such that detect contact 116c can rest within an indent 129 along an outer surface of plug 122 when plug 122 has been properly inserted within receptacle 112 of jack 102. Indent 129 may be any suitable size and shape and may be positioned anywhere along the length of plug 122. For example, detect contact 116c may include a retention spring that can exert a retention force on indent 129 of plug 122 such that plug 122 may not be withdrawn from receptacle 112 (e.g., in the direction of arrow O) without a user pulling firmly on plug 122. Advantageously, because detect contact 116c can act to retain plug 122 within jack 102 as well as to electrically detect the presence of plug 122 within jack 102, detect contact 116c is an efficient use of resources within electronic device 100.

Alternatively or additionally, one or more of jack contacts 114 (e.g., jack contact 114d, as shown in FIGS. 4A and 4B) may be biased to exert a retention force on plug 122 (e.g., within indent 129 of plug 122) such that plug 122 may not be withdrawn from receptacle 112 (e.g., in the direction of arrow O) without a user pulling firmly on plug 122. Advantageously, because jack contact 114d can act to retain plug 122 within jack 102 as well as to electrically communicate with one or more plug contacts 124, a biased jack contact is an efficient use of resources within electronic device 100. It is to be understood that any jack contact 114 of any of the embodiments described above with respect to FIGS. 2A-4B may be biased (e.g., by including a retention spring) to exert a retention force on any portion of plug 122 such that plug 122 may not be withdrawn from receptacle 112 (e.g., in the direction of arrow O) without a user pulling firmly on plug 122.

FIG. 5 illustrates additional control circuitry 130 that may be coupled to one or more detect contacts 116 of jack 102 (e.g., detect contact 116a, 116b, and/or 116c) for detecting the presence of a plug in accordance with the invention. Detect contact 116 can be coupled to a control unit 138 of control circuitry 130. Control unit 138 can be configured to detect the value of a signal on detect contact 116 (e.g., whether the value of the signal is high or low), and can instruct electronic device 100 to behave accordingly.

For example, in the illustrative embodiment of FIGS. 2A and 2B, when control unit 138 detects that the signal on detect contact 116a is high, a plug may be assumed to be within receptacle 112 of jack 102 and control unit 138 may instruct electronic device 100 to utilize accessory component 120 by routing input and output audio signals through jack contacts 114 and plug contacts 124 of accessory component 120, as opposed to through, or in addition to through, speaker 108 and microphone 104 of device 100. Likewise, in the illustrative embodiment of FIGS. 3A and 3B, when control unit 138 detects that the signal on detect contact 116b is low, a plug may be assumed to be within receptacle 112 of jack 102 and control unit 138 may instruct electronic device 100 to utilize accessory component 120 by routing input and output signals through jack contacts 114 and plug contacts 124 of accessory component 120, as opposed to through, or in addition to through, speaker 108 and microphone 104 of device 100. Control unit 138 can include, for example, a central processing unit ("CPU") of electronic device 100, other suitable digital circuitry, analog circuitry, or any combination thereof.

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Additional control circuitry 130 can also include one or more of various additional circuitry components 132, 134, and/or 136 that can be coupled in various ways between control unit 138 and each of the one or more detect contacts 116 of jack 102. For example, as shown in the illustrative embodiment of FIG. 5, additional circuitry component 132 may be a current limiting resistor or network, circuitry component 134 may be a pull-up resistor or resistor network, and circuitry component 136 may be a power source (e.g., V_{cc}). In other embodiments, these additional circuitry components 132-136 may be various other types of suitable circuitry components. These additional circuitry components 132-136 may be interposed in various ways between detect contact 116 and control unit 138, as well as between various other contacts of jack 102 (e.g., jack contacts 114) in order to ensure that any signal noise may be minimized and that proper signal properties are protected between detect contact 116 and its one or more associated jack contacts 114 when a plug is present within receptacle 112 of jack 102 and when a plug is not present within receptacle 112 of jack 102 as described above.

While there have been described systems for detecting when a plug of an accessory component is present within a jack of an electronic device, it is to be understood that many changes may be made therein without departing from the scope of the invention. Combinations of embodiments or features in more than one embodiment also are within the scope of the invention. Those skilled in the art will appreciate that the invention can be practiced by other than the described embodiments, which are presented for purposes of illustration rather than of limitation, and the invention is limited only by the claims which follow.

What is claimed is:

1. A plug detect apparatus for detecting the presence of a plug, wherein the plug has at least a first plug contact, the plug detect apparatus comprising:

a receptacle configured to accept the plug;

a first receptacle contact disposed in the receptacle, wherein the first receptacle contact is configured to communicate with the first plug contact;

a detect contact disposed in the receptacle relative to the first receptacle contact so that the presence of the plug within the receptacle creates a signal path through the plug and between the detect contact and the first receptacle contact, wherein the detect contact and the first receptacle contact both contact the same first plug contact when the plug is present in the receptacle; and

detection circuitry coupled to the detect contact and the first receptacle contact to detect that the signal path is a low or a high impedance path.

2. The plug detect apparatus of claim 1, wherein the signal path is a low impedance path created by the first receptacle contact and the detect contact.

3. The plug detect apparatus of claim 1, wherein the first receptacle contact is a ground contact.

4. The plug detect apparatus of claim 1, wherein the first receptacle contact is a functional contact.

5. The plug detect apparatus of claim 1, wherein the first receptacle contact is biased to exert a retention force on a first portion of the plug when the plug is present within the receptacle.

6. The plug detect apparatus of claim 5, wherein the first portion of the plug is an indented portion of an outer surface of the plug.

7. The plug detect apparatus of claim 5, wherein the first receptacle contact includes a spring.

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8. The plug detect apparatus of claim 1, wherein the detect contact is biased to exert a retention force on a first portion of the plug when the plug is present within the receptacle.

9. The plug detect apparatus of claim 8, wherein the first portion of the plug is an indented portion of an outer surface of the plug.

10. The plug detect apparatus of claim 8, wherein the detect contact includes a spring.

11. The plug detect apparatus of claim 1, wherein any debris in a space between the detect contact and the first receptacle contact is removed from the space between the detect contact and the first receptacle contact by the plug when the plug is inserted into the receptacle.

12. An electronic device capable of detecting the presence of a plug of an accessory component, wherein the plug includes a first plug contact, the electronic device comprising: a receptacle configured to accept the plug;

a first receptacle contact disposed in the receptacle, wherein the first receptacle contact is configured to communicate with the first plug contact;

a detect contact disposed in the receptacle relative to the first receptacle contact so that the presence of the plug within the receptacle creates a plug signal path through the plug and between the detect contact and the first receptacle contact, wherein the detect contact and the first receptacle contact both contact the same first plug contact when the plug is present in the receptacle; and detection circuitry coupled to the detect contact and the first receptacle contact to detect that the signal path is a low or a high impedance path.

13. The electronic device of claim 12, wherein the electronic device further comprises:

a first input/output component; and

control circuitry coupled to the detect contact, wherein the control circuitry is configured to instruct the electronic device to utilize the first input/output component when a detect signal on the detect contact has a first value, and wherein the control circuitry is configured to instruct the electronic device to utilize the accessory component when the detect signal has a second value.

14. The electronic device of claim 13, wherein the plug signal path is configured to make the detect signal have the second value.

15. The plug detect apparatus of claim 12, wherein the plug signal path is a low impedance path.

16. The electronic device of claim 12, wherein the first receptacle contact is one of a ground contact and a functional contact.

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17. The electronic device of claim 12, wherein the first receptacle contact is biased to exert a retention force on a first portion of the plug when the plug is present within the receptacle.

18. The electronic device of claim 17, wherein the first receptacle contact includes a spring.

19. The electronic device of claim 12, wherein the detect contact is biased to exert a retention force on a first portion of the plug when the plug is present within the receptacle.

20. The electronic device of claim 19, wherein the detect contact includes a spring.

21. The plug detect apparatus of claim 2, wherein the first plug contact is a metal and the low impedance path has approximately zero resistance.

22. The electronic device of claim 15, wherein the first plug contact is a metal and the low impedance path has approximately zero resistance.

23. The plug detect apparatus of claim 1, wherein the detection circuitry includes circuitry to detect the presence of the plug by detecting that the signal path is a low impedance path.

24. The plug detect apparatus of claim 1, wherein the detection circuitry includes circuitry to detect that the plug is not present in the receptacle by detecting that the signal path is a high impedance path caused by a gap in the signal path.

25. The electronic device of claim 12, wherein the detection circuitry includes circuitry to detect the presence of the plug by detecting that the signal path is a low impedance path.

26. The electronic device of claim 12, wherein the detection circuitry includes circuitry to detect that the plug is not present in the receptacle by detecting that the signal path is a high impedance path caused by a gap in the signal path.

27. The electronic device of claim 12, wherein any debris in a space between the detect contact and the first receptacle contact is removed from the space between the detect contact and the first receptacle contact by the plug when the plug is inserted into the receptacle.

28. The plug detect apparatus of claim 1, wherein the first receptacle contact and the detect contact are biased by a spring to exert a retention force on an indented portion of an outer surface of the plug when the plug is present within the receptacle.

29. The electronic device of claim 12, wherein the first receptacle contact and the detect contact are biased by a spring to exert a retention force on an indented portion of an outer surface of the plug when the plug is present within the receptacle.

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CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Federal Circuit by using the appellate CM/ECF system on March 29, 2014.

I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

Dated: March 29, 2014

s/ Deanne E. Maynard
